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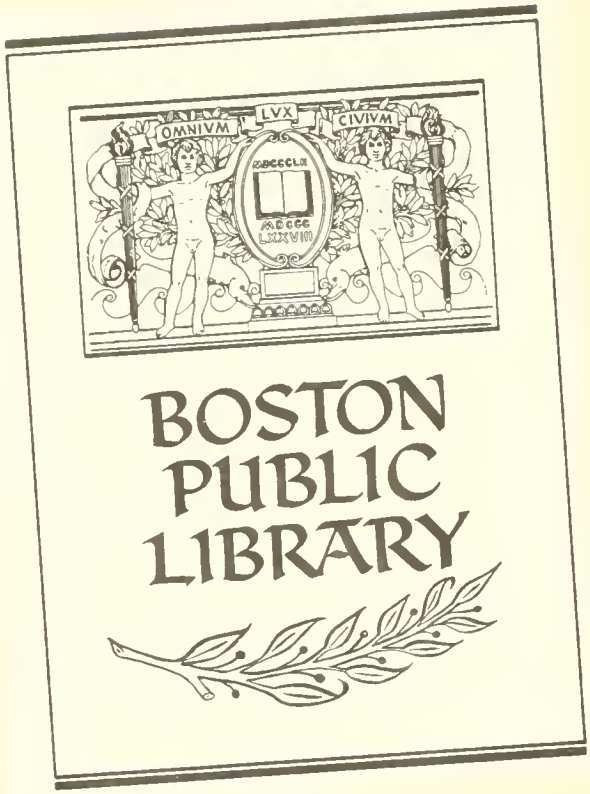
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A WORKING DOCUMENT ON THE DROPOUT PROBLEM IN BOSTON PUBLIC SCHOOLS

May 1986

Boston Public Schools

R & D Office of Research & Development

A WORKING DOCUMENT ON THE DROPOUT PROBLEM IN BOSTON PUBLIC SCHOOLS

BOSTON PUBLIC SCHOOLS
MAY 1986

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EXECUTIVE SUMMARY

This Study Consists of 3 Parts:

(1) Review of Research Studies on the Causes of School Dropout.

(2) Statistical Analyses of BPS Dropouts.

(3) A Review of Prevention/Intervention Programs
Program Effectiveness
BPS Programs

(4) Suggestions for Additional Readings

I. There are 4 major areas associated with dropouts

- A Series of Factors Associated with Poverty and Lower Socio-Economic Status, and with the state of the Local Economy

- School Failure: Nonpromotion, Learning Lag and Lower Performance in Achievement Tests (MET, DRP, Basic Skills)

- Getting Into Trouble:
  Premature Pregnancies (Major Contributor for Girls)
  Lateness and Truancy
  Delinquency and Trouble with the Law
  Probation
  Suspensions

- Alienation From School:
  Lower Satisfaction with School
  Negative Attitudes
  Low Expectations of School
  Orientation Outside of School (Work, Marriage)

II STATISTICAL ANALYSES OF DROPOUT AT BPS

In Outline Form, Following are the Major Findings:

- The High School Dropout Percentage for 1984-85 Academic Year is 16.4% (3498 students).

- The Three Major Dropout Groups are:
  Summer (35%)
  New Enrollees (24%)
  BPS Enrollees (40%)

- Comparison of Annual High School Dropout Percentages 1983-1986 Suggests that the Annual Loss of High School Students Due to Dropout may be Stabilizing.

1982-83	1983-84	1984-85	1985-86 (estimate)
14.5%	16.9%	16.4%	12.9%

- The cohort dropout rate for the 1985 graduating class (i.e., those BPS students that started together in the 1981) was 43%; the cohort dropout rate is increasing rapidly, from 36% in 1982 to 43% in 1985.

- Dropouts by Gender: Boys 59%, Girls 41% in 1984-85 (Premature Pregnancies is Major Cause of Dropout Among Girls; BPS has no Data)

- Dropout by Race: Hispanics = high (31% higher than expected)
  Asians = low (40% below expected)
  Black = proportionate
  White = proportionate

- Likelihood of Dropout by Grade:
  10 & 11 Grades have Higher Likelihood of Dropout

- Likelihood of Dropping Out by Program:

  SPED = high
  VOCED = somewhat high
  BILINGUAL = not different than other programs; program actually buffers Bilingual students against dropout

- Greatest high school loss in 1984-85 due to dropout took place at the Burke, followed by Dorchester High, Boston High, Jamaica Plain, Brighton and Madison Park. Highest losses due to transfers out were at West Roxbury, Dorchester, Brighton, Jamaica Plain, Hyde Park, Charlestown, and South Boston.

- School Failure: BPS Dropouts Perform Lower in Basic Skills
  MET Reading
  MET Math
  DRP

- Getting Into Trouble:
  BPS Dropouts have higher Rate of Nonpromotions
  Suspensions

PART 3: EFFECTIVE PROGRAMS

This section reviews the literature on effective programmatic approaches to dropout prevention, intervention, and post-dropout re-entry. Prevention/intervention programs are grouped as follows:

(A) Social Support Programs
(B) Academic Remediation/Development Programs
(C) Alternative Programs
(D) Work Experience

This study reviews dropout programs in the literature and provides a detailed breakdown which includes:

(1) a list by type of program
(2) a review of program effectiveness
(3) a matching of Boston programs with effectiveness ratings

A List of Alternative Programs at BPS Shows:

- 10 of 18 high schools and 8 of 22 middle schools report having at least one alternative program.
- Most BPS districts have counseling programs, but generally lack:
    - Racial/multicultural focus
    - Teacher advocacy components
    - Caring community models
    - School-based child care
    - Peer programs
- Most BPS districts have some academic remediation programs (Districts A, C, E), but serve only a limited number of students in need. Lacking components include:
    - Teacher responsibility and teacher culture programs
    - Small class size and empowerment environment models
    - Teaching clusters
- Alternative and work-study programs:
    - Serious dearth of alternative programs
    - Successful models of work study programs in some districts, none in others (e.g., A).
- BPS needs comprehensive dropout prevention programs that combine social supports, academic interventions, and program alternatives.

Acknowledgements

This study was conducted by a BPS research team headed by Dr. Yohel Camayd-Freixas, Director of the Office of Research & Development, along with Dr. Leslie Horst, Information Systems, Jeff Harris, R&D and Christine Robinson, consultant. Mary White, R&D, handled word processing. We are grateful to Jeannette Hargroves and the Federal Reserve Bank for cover design and reproductions, and for a great deal of assistance with this study. We are also grateful to the Boston Compact Dropout Conference Planning Committee for their support.

PART I

CONTRIBUTORS AND CORRELATES OF DROPOUT AND SCHOOL FAILURE

1. Major Factors Associated With School Dropout In The Research Literature

2. The Relative Strength Of Causal Factors: Findings Of Major Longitudinal Studies

1. MAJOR FACTORS ASSOCIATED WITH SCHOOL DROPOUT IN THE RESEARCH LITERATURE

Abstract

The summary review of the research literature that follows identifies a large number of factors and conditions associated with high school dropout. Closer scrutiny of these items suggests four major clusters: (1) lower socio-economic status (SES), (2) the local/regional economy, (3) educational program area and, perhaps most importantly, (4) getting into trouble. These areas are not mutually exclusive. Rather, our best guess is that the first 3 areas act as contributors to the fourth area which may be both necessary and sufficient to account for the dropout decisions.

Lower SES is implicated in school dropout in a variety of ways, ranging from poverty, lower familial SES and single parent households, to urban and inner city residence, less desirable pupil/teacher ratios, and lower educational resources. The local/regional economy mediates the rate of dropout through SES differences between urban/suburban/rural areas, via growth of employment opportunities that may act to stimulate dropout, and through the stability it provides in its manufacturing or service economy. At the school level, academic and college preparatory educational programs are associated with lower dropout rates, while vocational, remedial, and bilingual education seem to contribute a disproportionate share of dropouts. Again, this may be mostly a function of the underlying conditions and needs that lead (or track?) students to these programs, rather than flaws inherent in the programs per se.

Often, a common denominator of students who dropout is getting into trouble: (a) through lower performance and learning lag; (b) through discipline (e.g., probations, suspensions, trouble with the law, poor attendance, tardiness, truancy); (c) through school failure (nonpromotion); (d) negative school experiences (e.g., low expectations and satisfaction with school, low self-esteem); (e) premature pregnancy and marriage; and (f) working long hours while attempting to go to school. Getting into trouble is both an indicator of being at-risk of dropping out, as well as a precipitant of the drop out decision.

The pages below review in outline form the research literature on dropouts. The section that follows focuses on the relative strength of these factors as contributors to a student's dropout decision.

REVIEW

The pages that follow present a review of the Research Literature on causes of dropout. This review is grouped into 3 general areas: (1) School-Related Factors, (2) Social and Socioeconomic contributors, and (3) Student Characteristics. In addition, we have included a fourth area on successful re-entry after dropping out.

It must be cautioned that the social indicators reviewed in the literature are often biased in that their weight tends to "blame the victim". A review of the research conducted on dropouts reveals that the institutional deficiencies of the school have been given considerably less attention than the intellectual and personality characteristics of the student. Low socioeconomic status, bilingualism, unemployed or single parents, are not in and of themselves causes of dropout, but are too frequently the reasons given for student loss.

Gary Wehlage and Robert Rutter authors of "Dropping Out: How Much Do Schools Contribute to the Problem?" Caution us to "Understand the institutional character of schools and how this character affects the potential dropout. While institutional character has broad meaning, the focus can be narrowed to those policies and practices that have impact on the institution's holding power. This holding power ought to be part of our definition of school excellence in a democratic society where schools are to serve all of its citizens, not just the academically agile" (p. 3-4). This is an important consideration to keep in mind, given that most effective interventions on the dropout problem require improvements in the school's holding power.

EXHIBIT I

SUMMARY OF FACTORS ASSOCIATED WITH HIGH SCHOOL DROPOUT

SCHOOL RELATED FACTORS:

- Student Performance: lower performance in cognitive measures, achievement tests, grade point average.
- Discipline & Attendance: probation, suspensions, trouble with the law, attendance, lateness, truancy.
- School Experiences: low school satisfaction and expected school attainment, feelings of alienation, low self-esteem.
- School Failure: nonpromotion, age at which student starts the 9th grade.
- School Characteristics: Mostly socio-economic in nature. Schools in poorer areas have higher dropout rates.
- Pupil/Teacher Ratio: more students per teacher (generally associated with district SES)
- Educational Program: more likely among vocational education, remedial, general, and bilingual programs, less likely among academic and college preparatory.
- % Minority: larger percentage of Black, Hispanic, and Native American students (generally an SES factor).

SOCIETAL & SOCIOECONOMIC FACTORS

- Socioeconomic Status: lower familial, district, county socio-economic status.
- Employment Growth: growing job opportunities associated with increaseing dropout.
- Manufacturing Sector: lower dropout in areas with a significant manufacturing economy.
- Urban/Rural: greater dropout in urban and inner cities, followed by rural, followed by suburban areas.
- Regional Differences: Dropout highest in urban regions of the Northeast.

STUDENT CHARACTERISTICS:

- Gender: rates are higher for males than females.
- Race: highest rates are among Native Americans, followed by Hispanics, Blacks, Whites, and lowest for Asians.
- Religiosity: lowest among religious students, and among Jews, then Catholics, Protestants, and highest for students with no religious affiliation.
- Parental SES: highest among poor and working poor families (i.e., lower parental education, occupation, and income), and among larger families.
- Single Parent Households: highest among single parent households, and particularly among students with no parents present in household.
- Working Students: highest among students working 15+ hours/week.
- Marriage/Children: highest among married students and those with children.

LIKELIHOOD OF HIGH SCHOOL RE-ENTRY

Students previously enrolled in academic programs
Students who are parents and/or married
Students from Northeast and North Central states
Students who are employed
White Students

I. SCHOOL RELATED FACTORS:

(a) Characteristics of the schools they leave:

It is well documented that minority and lower socioeconomic status (S.E.S) students perform more poorly in school than do White and middle class students. Teachers and school personnel are more likely to interact negatively with poorer, minority, and non-English speaking students than with children from their own racial and SES background. But we do not know whether these negative interactions precede, cause, or follow student's poor academic performance. It is suggested that the socioeconomic climate of a school influences student achievement and, as a result, school retention. It is difficult to separate the effects that can be attributed to some aspect of the socioeconomic climate of the school from those attributable to the socioeconomic status of the students.

(b) Cognitive Measures:

It is misleading to infer a strict causal relationship running from poor performance to dropping out. The underlying factors leading to poor performance also influence dropping out. Students who leave school early do tend to perform poorly on tests of intelligence, reading, vocabulary, and mathematics. Reading and mathematical aptitude contribute to the prediction of school dropout above and beyond the predictive contribution of family social class.

(c) Student Performance (I.Q., Achievement tests, etc):

Students with low scores on ability or achievement tests tend to dropout at substantially higher rates than students with higher scores and grades. There is a rapid decrease in the dropout rate from one ability quartile to the next, and the dropout differences between the highest and lowest ability quartiles is dramatic.

(d) Grade Point Average:

Dropout rates are also strongly associated with students' self-reported grades in school. The relationship between grades and dropping out holds very strongly across all racial and ethnic groups.

(e) Competency Tests:

Dropout rate is higher by a small (but significant) extent among students who attend high schools that require competency tests.

(f) Discipline Problems:

There is a remarkably uniform relationship between discipline indicators and the dropout rate. Students who have been on probation, suspended, or in trouble with the law, are about three times more likely to be dropouts, on average, than students who have no discipline problems. This finding is surprisingly constant across sex and racial/ethnic groups. These are the only predictors that make a sharp distinction between dropouts and noncollege bound graduates.

The student's attendance and lateness record are also highly correlated with dropout. According to Wehlage's analysis of the "High School and Beyond" data set, expected school attainment and truancy again appear to be the most powerful variables in discriminating between dropouts and stay-ins.

(g) Satisfaction:

School experience and expected school attainment are also important. Dropouts generally report far more negative school experiences than those of their peers who graduate. Dropouts are more likely to express dissatisfaction with school, report feeling alienated from school life, and to be less satisfied with the way their education is going.

(h) Students Held Back - Not Promoted:

A strong factor related to dropping out is failure to progress through the pre-high school and high school grades at a normal rate. The dropout rate is more than twice as high among students who have repeated one or more grades than among the remaining students who have not.

There is increase in the dropout rate as the students' age entering the ninth grade increases. Typical age of entry to that grade is 14 to 15. The failure to progress at a normal rate may be due to similar underlying factors as those that push students to dropout.

(i) Student-Teacher Ratio:

The dropout rate declines along with the pupil/teacher ratio. The dropout rates among schools with the best ratios are less than two-thirds as great as among schools with the worst ratios. An alternative explanation of the relationship is that schools with high staffing ratios tend to have other characteristics associated with low dropout rates, such as higher SES, and more educational resources.

(j) Type of Program Student Enrolled in:

Enrollment in an academic program is associated with a much lower dropout rate than enrollment in either general or vocational programs. The mere fact that vocational students dropout at higher rates than academic students does little to resolve the debate over the effect of vocational education on the rate of completing school. Potential dropouts are more likely to have been placed in vocational or remedial educational tracks. We do not know whether this tracking directly affects the dropout rate. Tracking serves to restrict the opportunity of those students who are placed in the lower tracks. The decision to enroll in a general or vocational program, for example, may reflect the same problems with academic work among high-risk students that eventually motivate them to leave school.

Enrollment in bilingual education generally tends to increase the likelihood of dropout in a manner similar to that described for vocational or remedial education programs. This is not because such programs necessarily contribute to dropping out, but because they are offered in schools where working class students and those with limited proficiency in English are concentrated, and hence where the dropout rate is likely to be higher. Thus, to arrive at a reasonable assessment of the effect of a bilingual program on the dropout rate, one must be able to control for the incidence of limited English proficiency in each school. Dropout rates also differ among different linguistic groups, and is highest among Hispanics. This effect is also confounded by the effect of S.E.S.

(k) Percent of the Student Body who are Black:

The dropout rate in a school generally increases with the percentage of Black enrollment. However, the percentage of black enrollment is likely correlated with lower average S.E.S.

(l) Self-Esteem:

Potential dropouts (i.e., at-risk students) score lower on tests of self-esteem. However, it is interesting to note that self-esteem scores rise after the student has dropped out of school.

II. SOCIETAL CONTRIBUTORS

The effects of local economic conditions especially labor-market conditions on students' decision to leave school are varied. Research separating the effect of specific economic factors from other predictors has not been reported in the literature. The findings outlined here should be considered no more than suggestive of issues to be considered.

(a) County/District Per Capita Income:

Students from counties in the lowest income quartile dropout at a substantially higher rate that students from counties in the top income quartile. This is essentially an extension to the neighborhood or community of the finding that poorer students are more likely to dropout.

(b) SMSA Unemployment Rate:

There is no relationship between overall dropout rates and rates of unemployment in student's SMSA (Standard Metropolitan Statistical Area). There is no available evidence of the potential effect on dropout rates of parental unemployment, although it is likely to increase dropout risk in much the same way as poverty.

(c) SMSA Employment Growth:

There is a moderate positive association between the overall dropout rate and the rate at which employment grew (between 1980 and 1982) in the SMSA. Although there is a theoretical basis for a positive relationship, namely, that dropping out to find a job becomes more attractive (relative to remaining in school) when employment is expanding, further investigation is needed.

(d) Manufacturing Wage Rate:

The overall dropout rate decreases as the manufacturing wage level increases. Lower dropout rates in areas of higher manufacturing level may suggest a growing increase in Boston dropouts as the city continues its economic shift to a service economy.

(e) Regional Differences:

Dropout rates are roughly one-third higher in the South and West than in either the Northeast or North Central regions. They are also about one-third higher in urban than in suburban areas, and somewhat higher in rural areas than suburbs; these differences may be economic in nature. There are also interactions between region and urbanicity. The highest urban dropout rates occur in the regions where overall dropout rates are the lowest, such as in the Northeast and North Central states; again, this may be due to the economic contrast between the inner cities and the urban periphery in these areas.

III. STUDENT DEMOGRAPHIC CHARACTERISTICS

(a) Student Working/Employed:

There is a relationship between working for pay and dropping out. Students who work have higher dropout rates than those who do not. The decline in school involvement and performance is greatest among students who work more than 15 hours a week. Again, the cause of dropping out may not be employment per se, but the economic/social and antecedent conditions that lead a student to work over 15 hours per week in the first place.

(b) Marital Status:

The dropout rates are much higher among students who say that they are married, have children, or both than among the rest of the student population. Students who are both married and have children dropout at the highest rate. These are the greatest causes of dropout among females.

(c) Sex:

Dropout rates are substantially higher for males than for females, and vary among racial and ethnic groups.

(d) Race:

Native Americans have the highest rate of dropout of any group, followed by Hispanics, Blacks, Whites, and Asian students.

Looking at differences between the sexes along or among the racial/ethnic groups alone can be misleading: to avoid problems, the interaction between sex and race/ethnicity must be taken into account.

(e) Religious Affiliation:

The dropout rates for Catholics are lower on average than the rates for Protestants, while the rates for Jews are significantly lower than those for either Christian group. Students who claim "other" religious affiliations or none, dropout at much higher rates. The dropout rate generally decreases sharply with an increase in self-reported religiosity.

(f) Parents Present in Home:

It is clear for all categories of students that having only one parent present in the home is associated with a substantially higher dropout rate than having both parents present. Having no parent present is associated with a still higher rate of leaving school.

(g) Parental and Familiar Socio-Economic Status:

Family SES is generally measured by father's and mother's education, occupation, family income, and family size. These factors are outlined below.

- Parents Educational Attainment:

The dropout rate decreases with each successive level of parental education, but the difference is especially pronounced between students whose parents are at the lowest educational level (less than high school) and those with parents at higher levels. Although parents' education is related to the dropout rates of both sexes, it is more strongly associated with the behavior of females than of males. This also varies greatly with race.

- Father's Occupation:

The overall dropout rates for students with fathers in low-level occupations are greater than the rates for students with fathers in mid-level or higher occupations. Father's occupation is more strongly related to dropping out than is mother's occupation.

- Mother's Occupation:

Students with mothers in low-level occupations are more likely to dropout than students with mothers in high-level occupations.

- Mother's Labor Force Participation Pattern:

The dropout rates of students whose mothers work only while they are in high school are lower than the rates for students whose mothers do not work at all. The rates for students whose mothers work only while they are in elementary school are significantly higher than for those whose mothers do not work at all. The rates for students whose mothers work during both the elementary and high school years fall in between those of the aforementioned two groups. This result is also confounded with socioeconomic status as most mothers who are working often do so out of economic necessity.

- Number of Siblings in the Home:

The dropout rate generally increases with the number of siblings, except that being an only child is associated with a higher dropout rate than having 1-3 brothers and sisters.

- Self-Reported Income:

There is evidence that the reliability of self-reported income data is low. Youth from the lower socioeconomic strata are generally more likely to dropout of school. Taking all categories of students together, dropout rates are higher for students who place their families in the lowest third of the income distribution that for higher SES students.

IV. WHO RETURNS TO HIGH SCHOOL?

White school dropouts are more likely to return than are Blacks and Hispanics; those from the Northeast and North Central regions are more likely to return than are those from the South and West; rural and suburan dropouts are more likely to return than are those from the central cities; and students who were enrolled in academic programs are more likely to come back than are those who failed to complete general or vocational programs. The likelihood that a school leaver will return to school is positively associated with parents' occupational level, parents' education, and the composite SES index as well as with ability. The combination of being married and having children is associated with a high probability of returning to school. Being responsible for children leads some school dropouts to reevaluate the importance of education, and to resume their studies at above-average rates. The association of dropout and (un)employment suggests that the availability of work makes it more worthwhile to continue one's education, in spite of the fact that some argue that scarcity or high competition for jobs makes returing to school a more attractive alternative.

SUMMARY OF FACTORS AFFECTING LIKELIHOOD OF SCHOOL RE-ENTRY

More Likely	Less Likely
White dropouts	Blacks, Hispanics
Northeast, North Central regions	South, West regions
Rural, Suburban dropouts	Central cities
Academic program students	Vocational, general programs
Higher Parental SES	Lower Parental SES
Married, children	Unmarried, no children
Available work	Scarce employment

2. THE RELATIVE STRENGTH OF CAUSAL FACTORS: FINDINGS OF MAJOR LONGITUDINAL STUDIES

Abstract

This review of the relative strength of factors associated with dropout suggests that some are more important than others. Without minimizing the importance of socio-economic status and other such characteristics, it is evident that three general factors are more robust in promoting school dropouts: (1) school failure (non-promotion, GPA, grades); (2) discipline (suspension, probation, lateness, truancy, delinquent behavior and trouble with the law); and (3) alienation from school (lower satisfaction, negative attitudes, and decreased interest and expectations from school and formal education, and transition/orientation towards the world or work).

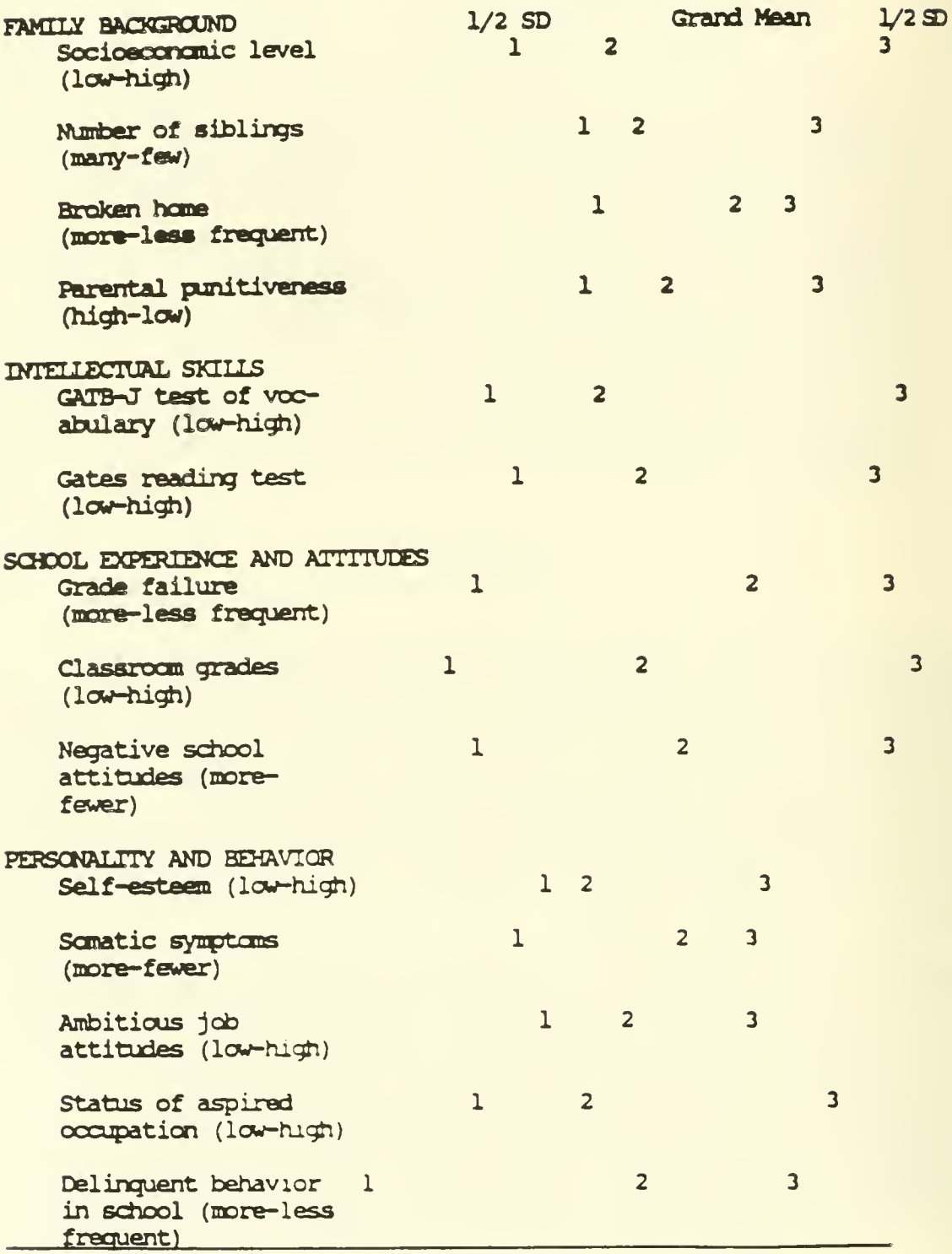
REVIEW

Two major longitudinal studies of dropouts have been conducted to date. Youth In Transition by Bachman, was conducted by the Survey Research Center at the University of Michigan. This study is based on a national sample of 2,000 adolescent boys. Data was gathered in the fall of 1965, and the summer of 1970. The most recent national data on dropouts come from the High School and Beyond study conducted by the National Center for Education and Statistics. This study was conducted in 1980 and 1982. These two studies allow some analyses on the comparative strength of the various "causes" of dropout.

Exhibits 2 and 3 depict the findings of these two studies. Predictive variables are listed in the left hand column. A 1, 2, or 3 represent, respectively, mean scores for high school dropouts (1), mean scores for high school graduates (2), and mean scores for college-bound high school graduates (3). The greater the distance between a 1 (Dropouts) and a 2 (High School Graduates), the greater the "Predictive Strength" of the variable. By and large, dropouts and high school graduates are more similar than are high school graduates and their college-bound classmates.

EXBIBIT 2: **YOUTH IN TRANSITION**

PREDICTORS RELATED TO EDUCATIONAL ATTAINMENT



1=Dropouts, 2=Graduates, 3=College-bound.

From: Wehlage, G. and Rutter, R. "Dropping Out: How Much Do Schools Contribute T The Problem?", Wisconsin Center for Education Research, University of Wisconsin, Madison.1985.

Only a few factors truly separate graduates from dropouts. Following is a review of exhibits 2 and 3:

Bachman "Youth In Transition" study (exhibit 2):

Bachman found four factors that have some strength in predicting dropout. These are grade failure, classroom grades, negative school attitudes, and in-school deliquent behavior. These factors all reflect direct experience or relations with the school rather than family background factors. The most interesting finding of the entire Bachman study is the strength of the "delinquent behavior in-school" factor. Bachman maintains that delinquent behavior during Junior High School is the most powerful predictor of dropping out (p. 104). It is the only predictor that makes a sharp distinction between dropouts and non-college bound graduates.

High School and Beyond (Exhibit 3):

Expected School Attainment, Truancy, and Discipline are by far the most powerful variables in discriminating between dropouts and graduates. Grades, Discipline Problems, Lateness, Hours Worked, and Interest in School also act as predictors of high school dropout.

It is important to note that, like the preceeding review, both studies point to factors related to getting into trouble at school: (1) Discipline (defined as delinquent behavior, truancy, lateness, suspension, probation, or trouble with the law); (2) School Failure (non-promotion, class GPA and grades). In addition, two other factors also seem operative: (3) Alienation from school (i.e., lower satisfaction, negative attitudes, and interest in school), and (4) Working long hours outside of school, which could have a socioeconomic need component as well as act as an indicator of a students transition/alienation from school to the world of work.

These exhibits suggest that there is a serious problem with the holding power of the school for some youth. Dropouts while still in school do not expect to get as much schooling as their peers, and generally hold their school in lower regard. They do not perform as well as their peers on school tests, their grades are lower, they are more often truant and out of school, and generally get into more disciplinary trouble than other students. Given this rather negative set of experiences, it is not surprising that their satisfaction and expectation of schools are lower, and that they leave school early. Most leave to enter the world of work. Their sense of self and own worth actually increase after dropping out.

Note: The findings in this brief report are heavily borrowed from:

Wehlage, G. and Rutter, R. "Dropping Out: How Much Do Schools Contribute to the Problem?". Wisconsin Center for Education Research, University of Wisconsin-Madison, 1985.

Bachman, Jerold, et al. Youth in Transition, Volume III: Dropping Out - Problem or Symptom? Ann Arbor, Michigan: Institute for Social Research, 1971.

Barro, Stephen, "The Incidence of Dropping Out: A Descriptive Analysis" Washington, DC: SMB Economic Research Inc., October, 1984, Mimeographed.

EXHIBIT 3: High School and Beyond

SUMMARY OF PREDICTOR VARIABLES FOR EACH STUDENT GROUP

	-1 SD	-1/2 SD	Mean	+1/2 SD	+1 SD
SES/Q		1 2			3
TEST/Q		1 2			3
GRADES	1	2		3	
S/ESTEEM		12	3		
LOC/CON		1 2		3	
HRS/WRKD		1	2 3		
TRUANCY	1		2 3		
LATE		1	32		
SUB/FEELS		12	3		
OTHERS/C/ME		12	3		
ACDM/INSTR			13 2		
REPUT/COM			21 3		
SCHL/CLIM			1 2 3		
SCHL/PROBS			1 2 3		
INTR/SCHL		1	2	3	
DISCIPLINE	1		2 3		
LAW/PROBS		1	2 3		
EXP/SCHL/ATN	1			2 3	

1=Dropouts
2=Non-college bound graduates
3=College-bound graduates

From: Wehlage, G. and Rutter R. "Dropping Out: How Much Do Schools Contribute To The Problem?". Wisconsin Center for Education Research, University of Wisconsin, Madison, 1985.

PART 2

DROPOUTS IN BOSTON PUBLIC SCHOOLS

1. The causes of dropout at BPS: A conversation with Senior Personnel

2. What BPS Data Shows

   A. Assessing Student Loss
   B. Determining the Dropout Rate: Cohort Analyses
   C. Who Drops Out?
   D. Causal Analyses (Matched to the Research Literature)

1. The Causes of Dropout at BPS

Recently, a group of senior field and central office BPS staff joined representatives of City government and of BPS institutional partners to discuss the dropout problem. On the basis of those discussions, an exploratory picture begins to emerge which outlines the probable reasons why the dropout rate at BPS is high and growing. While this outline is largely speculative--that is, based on the opinions of persons with relevant expertise rather than on objective data--there can be little doubt that many of these factors are implicated in the BPS dropout problem. In the outline that follows, the first two items are considered spurious effects--that is, the artificial result of changing measurement practices. The other items are considered substantive. It was also the general opinion of participants that these factors often act in interaction to influence the dropout choice, and that intervention efforts should take into consideration this interaction.

Spurious Factors

(1) Improvements in measurement techniques have artificially increased the dropout numbers and rate over the last decade.

(2) Inappropriate "annual rate" techniques of calculating dropout statistics inflate the dropout rate being reported.

Substantive Factors

While the above factors have some influence in artificially increasing the dropout rate, there is little doubt that this rate is both high and growing. Following are some probable causes:

(3) Accummulating learning lag. Students currently going through the high school years experienced significant disruptions of the educational system during the 1970's. BPS Curriculum and Instruction practices needed improvement as well. Taken together, these may have weakened the academic base needed for successful performance in high school, frustrating many of these students.

(4) Side effects of positive change. BPS has made significant progress in curriculum areas in recent years, and has increased its academic demands on students (including establishing promotional standards). Increased academic and promotional demands, in light of the learning lag discussed in item 3, may lead to greater frustration and dropout among students who are academically behind. This interaction would accelerate the dropout rate over the short term, but academic improvements would likely reduce dropouts over the long term.

(5) Contextual factors in Boston's economy. The juxtaposition of (a) increasing number of families in Boston entering the poverty ranks, (b) exascerbated by spiraling rents and the cost of living in the city, is increasing the economic pressures on many BPS students and their families. These students are faced with (c) a healthy city economy rapidly generating many low-end service jobs (e.g., restaurant, fast foods, hospital orderlies) in the secondary economy, which may (d) lead them to choose dropping out over staying in school, particularly if items #3 and #4 above are also active.

(6) Un/underattended social and personal problems. A dearth of necessary social support services and programs that assist the adolescent to overcome situational and personal problems.

(7) Structural problems of the educational system. Problems caused or contributed to by the BPS system. For example, systematic weakness in selected instructional areas or grades may make some students more vulnerable to dropping out when faced with comparatively greater demands at the high school level--or when faced with increasing promotional standards. Similarly, a dearth of work study programs may affect students faced by problems such as #5 above, increasing their chances of choosing to drop out. Limited opportunity for flexible scheduling may affect yet others; for example, the common need for many new immigrant families to keep their older children out of school in order to translate for the parents at important meetings with the outside world (e.g., health-related visits, landlord, welfare) may contribute to some students not having the attendance necessary for promotion, or to missed lessons and academic difficulty. Other examples have been noted.

Factors such as these, simply or in interaction, are considered by senior BPS staff to contribute to the extent and complexity of the dropout problem at BPS. Some of these problems would likely respond to academic remediation. Others would require alternative programs and various supportive services. There is a need to study systematically the causes of the dropout problem at BPS, and to link these causes to the most effective programmatic interventions that the field of education has to offer. Focused analysis and focused interventions are in order.

2. WHAT BPS DATA TELLS US

A. Assessing Student Loss

- BPS Student Loss 1984-85
- BPS 1984-85 Student Loss Details
- BPS Dropouts 1984-85
- The Causes of Summer Loss: A Conversation with Educators
- Comparison of Student Loss 1983-86

EXHIBIT 4

BPS STUDENT LOSS 1984-85

Dropouts are one component of student loss. As exhibit 4 details, 7.4% (1581) of BPS high school students transferred out to other schools/districts in 1984-85, 15.3% (3268) dropped out, and an additional 1.1% (230) were likely dropouts; that is, students who moved leaving no forwarding address and requesting no transcripts to other schools, and some who failed to show up at all (DNR's).

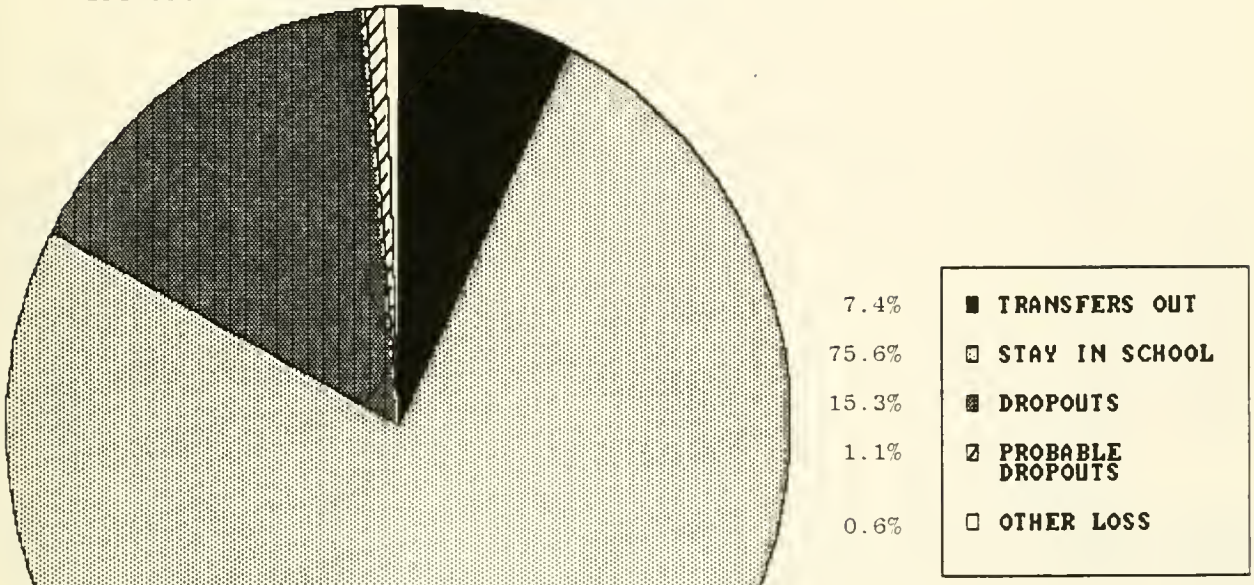
These dropout figures are larger than those previously reported by the Guidance and Support Services Team for a couple of reasons. First, students who fail to report (DNRs) and those who move leaving no forwarding address are counted as either dropouts or likely dropouts. Second, more students are identified as dropouts as a result of new data cleaning and quality control mechanisms conducted during April 1986. As is often the case, improved measurement results in more cases being identified. Finally, the percentage of dropouts for the year is calculated by using the sum total of students enrolled at any time from July 1984 through June 1985. This procedure includes all students who have a possibility of being counted in computing the dropout statistic. Following is a comparison of the old computations by Guidance, and the new method of counting dropouts, applied to 1984-85 data:

	OLD METHOD	NEW METHOD
DROPOUTS	3026	3268
(DNR's	262)	87
(MOVED/NO ADDRESS	143)	143
	(3431)	3498

The old method undercounted dropouts by counting only the "over 16", "marriage", "military", and "work" categories (3026 in 1984-85), and excluding DNR's and probable dropout categories. The new method results in 67 additional dropouts overall, and reassigns most DNR's to a more appropriate dropout code, and the remainder to a "probable dropout" code. The new method also changes the enrollment statistic by using total summative enrollment between July 1984 and June 1985, instead of October 1, 1984 enrollment.

EXHIBIT 4

BPS STUDENT LOSS BY PERCENTAGE 1984-1985



	# STUDENTS	PERCENT
TRANSFERS OUT	1,581	7.4%
STAYS IN SCHOOL	16,140	75.6%
DROPOUTS	3,268	15.3%
Sept - June	2,177	10.2%
Summer 1984	1,091	5.1%
PROBABLE DROPOUTS	230	1.1%
Sept - June	84	0.4%
Summer 1984	146	0.7%
OTHER LOSS/UNKNOWN	135	0.6%
TOTAL ENROLLMENT Sept - June:	21,354	100%

(a) Sept - June dropouts include all students with discharge dropout codes (i.e., over 16, marriage, work, military); summer dropouts includes all students who never reported to school at all (i.e., DNR flags).

(b) Probable dropouts include all students who moved leaving no forwarding address between July 1984 and June 1985, as well as students with a DNR discharge code in the summer (probably carryovers from the previous academic year) or from September through June.

EXHIBIT 5

1984-85 BPS STUDENT LOSS DETAILS

Exhibit 5 details student loss for the year grouped by category (Transfers, dropouts, other loss) and by subcategory, and separates student loss into periods corresponding to the summer and the academic year. This exhibit helps assess the relative contribution of different elements to overall student loss, as well as to identify the period when they occur. These data show a significant share of dropout takes place during the summer months.

EXHIBIT 5

1984-85 BPS STUDENT LOSS DETAILS

	SUMMER	ACADEMIC YEAR	TOTAL
RANSFERS	856	725	1581 (7.4%)
ɔston Parochial	213	43	256 (1.2%)
ass. Parochial	30	10	40 (0.2%)
ɔston Private	55	45	100 (0.5%)
ass. Public	252	283	535 (2.5%)
ass. Private	29	33	62 (0.3%)
ıtside Mass.	277	311	588 (2.8%)
ROPOUTS	1237	2261	3498 (16.4%)
ɔrk	197	420	617 (2.9%)
ilitary	6	12	18 (0.1%)
ver 16	878	1732	2610 (12.2%)
arriage	10	13	23 (0.1%)
NR	58	29	87 (0.4%)
ɔved/No Address	88	55	143 (0.7%)
THER LOSS	82	53	135 (0.7%)
xpulsions	2	6	8 (0%)
ɔme	2	11	13 (0.1%
eath	3	8	11 (0.1%)
ther	75	28	103 (0.5%)
PS ENROLLED/GRADS	393	15,747	16,140 (77%)
OTAL	2,819	18,842	21,354

SOURCE: Office of Research & Development, May 1986.

EXHIBIT 6

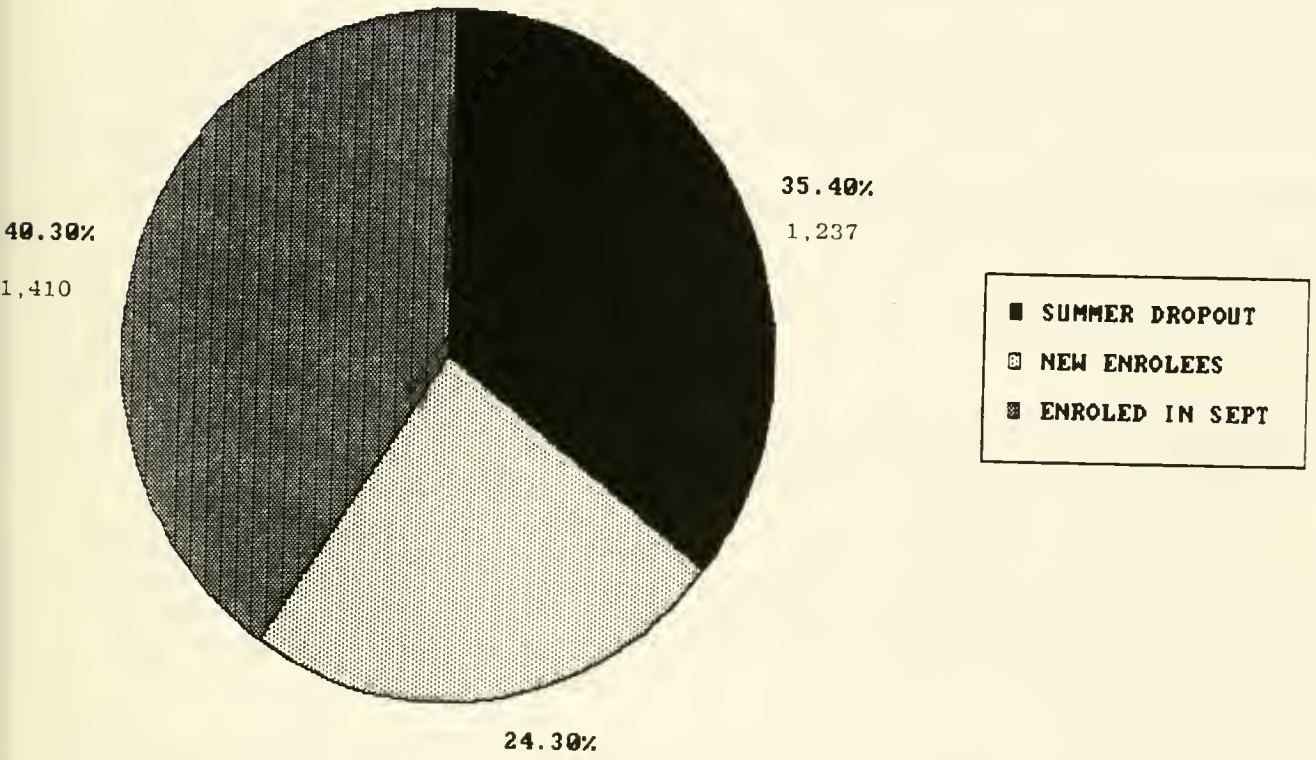
BPS DROPOUTS 1984-85

Exhibit 6 breaks down dropout figures into three general categories: (1) students who leave during the summer and fail to report in the fall (35%); (2) those BPS students who are already enrolled and attend school at the beginning of the academic year, but drop out sometime during the year (40%); and (3) those students who transfer into BPS during the academic year but fail to complete the year (24%).

It is likely that each of these groups follows its own unique dynamic in dropping out, and may require different programs or specially targetted interventions.

EXHIBIT 6

BPS DROPOUTS 1984-85



	# STUDENTS	PERCENT
DROPOUTS Sept - June	2177	10.2%
PROBABLE Sept - June DROPOUTS	84	0.4%
Subtotal Academic Year Dropouts	2261	10.6%
Estimated # Enrolled Sept 84*	1410	6.6%
Estimated # New Enrollees Oct - June*	851	4.0%
SUMMER 1984 DROPOUTS	1091	5.1%
PROBABLE SUMMER 1984 DROPOUTS	146	0.7%
Subtotal Summer 1984 Likely Dropouts	1237	5.8%
TOTAL LIKELY DROPOUTS July 84 - June 85	3498	16.4%

*This estimate is based on approximate number of total likely dropouts 84-85 present and enrolled as of Oct 1, 1984 and those who transfer into BPS during the academic year.

SOURCE: Office of Research & Development, May 1986

THE CAUSES OF SUMMER LOSS

A focused discussion group was held with BPS and community-based educators to discuss the causes of dropout. Particular attention was paid to summer dropout. Following are some causes discussed, and possible policies to reduce this problem:

Student Incentives to Dropout over the summer:

1. Separation: School ends in June; this a natural break for a student considering leaving. After three months away from the school environment, it is easier to dropout and more difficult to return.

2. Alienation: School assignments are received in May. If a student is not assigned to his/her first choice or is transferred to another school, they may be dissatisfied throughout the summer and decide not to return in the fall.

3. Diminished Attention: In May/June counselors and teachers who have been supportive of students go on vacation. The added encouragement/push to stay in school, or the school-related figure a student was close to is no longer available for encouragement/guidance.

4. Opportunity: The best jobs are available in the summer. Once the student becomes aclimated to the workplace, makes friends, enjoys the new work environment, with the added incentive of a pay check, it is more difficult to leave.

5. Bad Feedback (hopelessness): Report cards and failure notices are mailed in June. Students can no longer hope that they are passing; may be embarrassed about failure, and unable to continue with the class he/she entered with. Student disappears over the summer.

6. Decision Timing: For students thinking of leaving school in March, April, May. The unsupported summer months may contribute to the decision not to return to school.

7. Migration, Extended Summer (Extenuating Circumstances): If a student travels to visit family - the Caribbean- and returns late, a letter is sent stating he/she has been removed from the attendance roles after 15 days. If student returns late and finds he/she has been removed from school, extra effort is needed to work through this problem.

8. Unclear Re-Entry Process: No clear process of re-entering the school system is detailed for students who wish to return to the system.

9. No Active Role for Parents: Parents receive no communication from the school over the summer. There is no organized system where they can be in contact with school officials in reference to their child.

10. School Policies Encourage Summer Loss: Incentive for high school principals to get "Do Not Reports" off of their attendance roles. Coupled with a lack of time, staff, or incentives to call each student and ask why they have not returned.

POLICY SUGGESTIONS:

1. Contact: Each high school should be in contact with students who were enrolled in the spring and do not return in the fall. Extra personnel and time will be needed to accomplish this.

2. Earlier Notification of School Assignments: If assignments were mailed in January/February, dissatisfaction would decrease with time, and a transition program could be initiated, contacts could be made at the new school. All to lessen feeling of alienation.

3. Grace Period: Lengthen the 15 day notification in the fall to 1 to 1.5 months to accommodate families who go on extended vacations. And other extenuating circumstances.

4. Incentives: Schools incentives to retain students, or to encourage dropouts to return.

5. Permit Re-Entry to Home High School: If student seeks re-entry to school, prioritize assignment to school of student's choice.

6. Summer System of Guidance Counsellors: One person from each school should be available for all students during the summer.

EXHIBIT 7

COMPARISON OF STUDENT LOSS, 1983-1986

Exhibit 7 compares pie charts depicting student loss for academic years 1982-83 through 1985-86 (an estimate using data to April 24, 1986). As was discussed in Exhibit 4, these student loss figures and percentages are somewhat larger than those reported by Guidance in previous years because of improvements in measurement and inclusion of likely dropout categories (DNRs, moved leaving no forwarding address).

Exhibit 7 suggests that the annual percentage of transfers out of BPS has fluctuated around 7% or so, while the likely overall annual percentage of dropouts appears to have increased from 14.5% in 82-83 to 16.4% in 84-85; a moderate increase. However, the percentage of dropouts for 1984-85 (16.4%) and the estimate for 1985-86 (12.9%) are both lower than 1983-84. While several weeks remain in 1985-86 and more students are likely to dropout during that period, these data provide some grounds to question whether the extent of the dropout problem at BPS is stabilizing. These issues will be reviewed in the section that follows on cohort analyses.

	1982-83	1983-84	1984-85	1985-86 (est.)
TRANSFERS	6.5%	7.4%	6.7%	7.1%
DROPOUTS	12.4%	15.6%	15.3%	11.6%
PROBABLE DROPOUTS	2.1%	1.3%	1.1%	1.3%
TOTAL LIKELY DROPOUT	14.5%	16.9%	16.4%	12.9%

BPS STUDENT LOSS BY PERCENTAGE 1984-1985

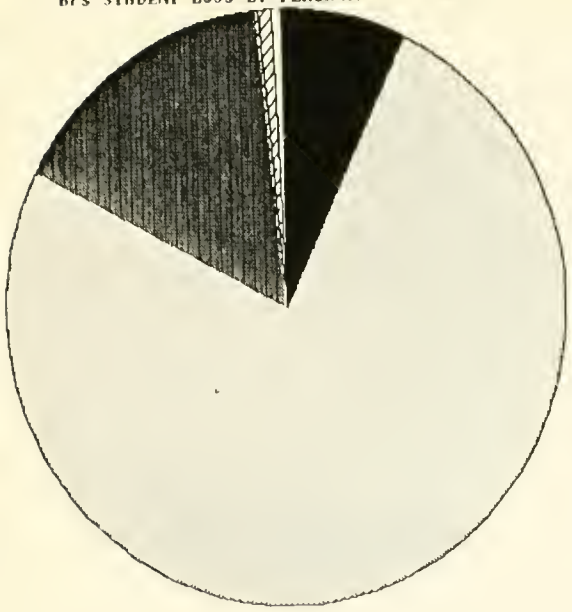


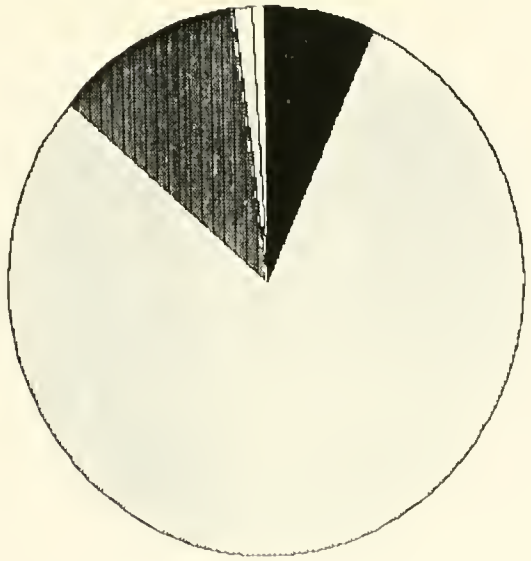
EXHIBIT 7

7.4%
75.6%
15.3%
1.1%
0.6%

- TRANSFERS OUT
- STAY IN SCHOOL
- DROPOUTS
- PROBABLE DROPOUTS
- OTHER LOSS

SOURCE: Office of Research & Development, May 1986.

BPS STUDENT LOSS SEPTEMBER 1985 THROUGH APRIL 24, 1986*



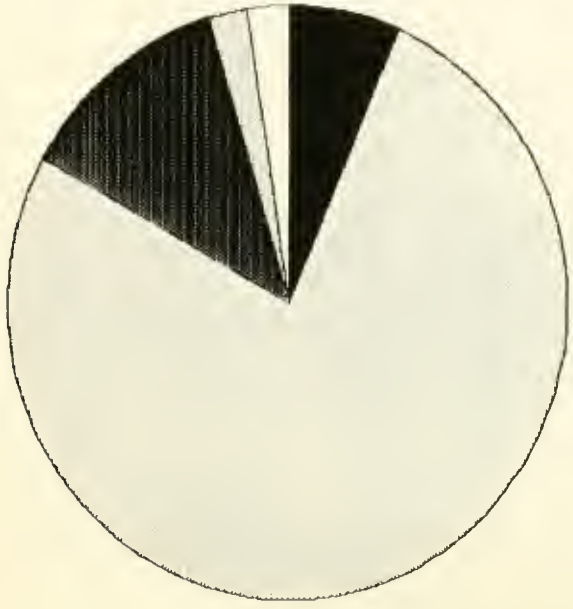
1438
7.1%
16,032
79.5%
2332
11.6%
262
1.3%
114
0.6%

- TRANSFERS OUT
- STAY IN SCHOOL
- DROPOUTS
- PROBABLE DROPOUTS
- OTHER LOSS

*This exhibit is one month of the 1985-86 academic year. Student loss [illegible] to April 24, 1986; actual figures for 1985-86 will likely be higher than the total of 2594 likely dropouts evident by April 24, 1986.

SOURCE: Office of Research & Development, May

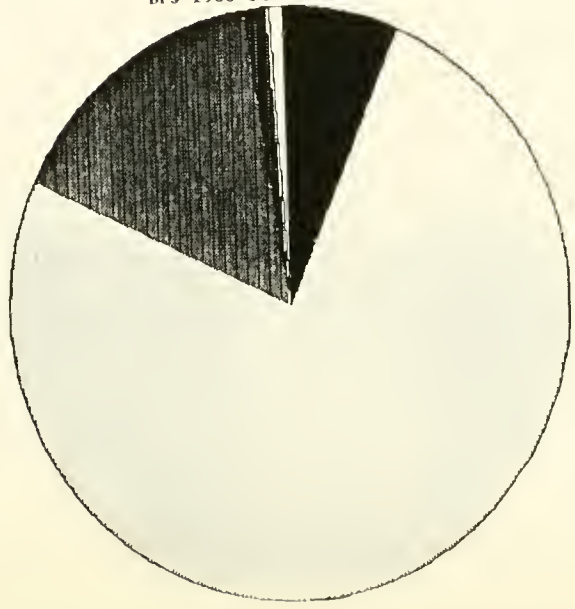
BPS STUDENT LOSS 1982-83



1468
6.5%
17432
76.7%
2809
12.4%
470
2.1%
539
2.4%

- TRANSFERS OUT
- STAY IN SCHOOL
- DROPOUTS
- PROBABLE DROPOUTS
- OTHER LOSS

BPS 1983-84 STUDENT LOSS



1473
6.7%
16,665
75.7%
3431
15.6%
283
1.3%
165
0.7%

- TRANSFERS OUT
- STAY IN SCHOOL
- DROPOUTS
- PROBABLE DROPOUTS
- OTHER LOSS

B. DETERMINING THE DROPOUT RATE: COHORT ANALYSES

- 1985 Graduating Class Cohort Student Loss
- Student Loss Details: 1985 Cohort
- BPS Student Loss 1982-85
- Trends in Student Loss
- 1982-85 Cohort Studies

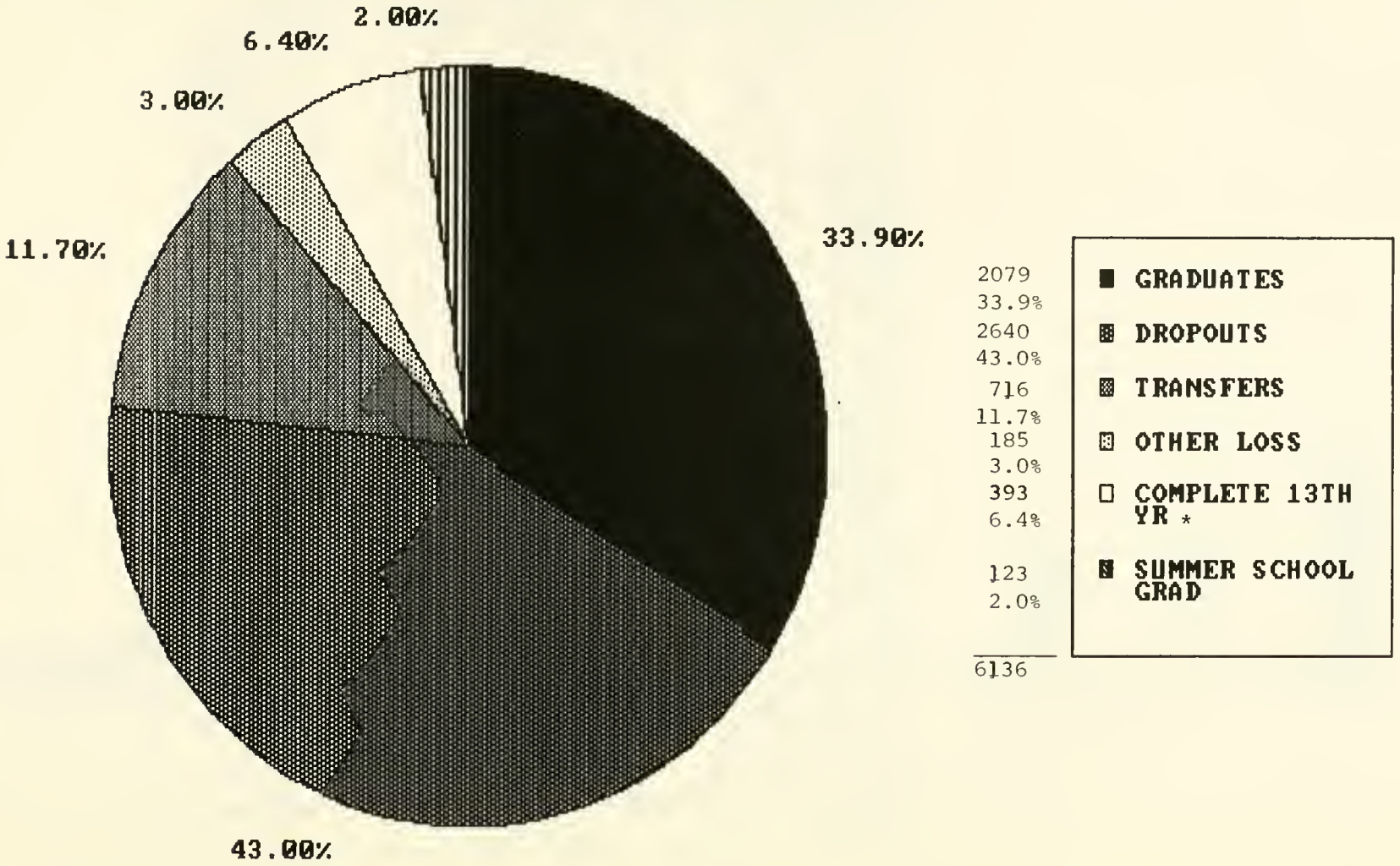
EXHIBIT 8

The most appropriate method for measuring the dropout rate is a cohort technique. This method takes an entering 9th grade class (i.e., all students who report for at least one day), and follows the progress of these students through graduation year plus a 13th year (i.e., to see what happens to those who for some reason were not promoted at some point during their high school tenure), and then counts and calculates rates for dropouts, transfers to other school systems, and other elements of student loss. Exhibit 8 presents this analysis for the 1985 graduating class cohort that started together as 9th graders in 1981-82. Exhibit 12 presents detailed cohort studies for 1982, 1983, 1984, and 1985.

As is readily evident in exhibit 8, of the students entering the 9th grade in the Fall of 1981, 43% dropped out (or failed to report or moved leaving no forwarding address), 11.7% transferred out, 3% left for other reasons, and 42.3% stayed at BPS throughout their careers. Those who progress normally at BPS are comprised of the following: 33.9% graduated on time, 2% graduated in the summer after their senior year, and 6.4% completed a 13th year of high school (many will likely graduate in June 1986, while others are SPED students who take longer to complete their studies; none have dropped out as of April 24, 1986). The 1985 class cohort dropout rate is the highest of the four cohorts calculated for this study.

Exhibit 8

1985 GRADUATING CLASS COHORT STUDENT LOSS DETAILS



* Dropouts and transfers of 13th year students are included in the dropout and transfer statistics.

SOURCE: Office of Research & Development, May 1986

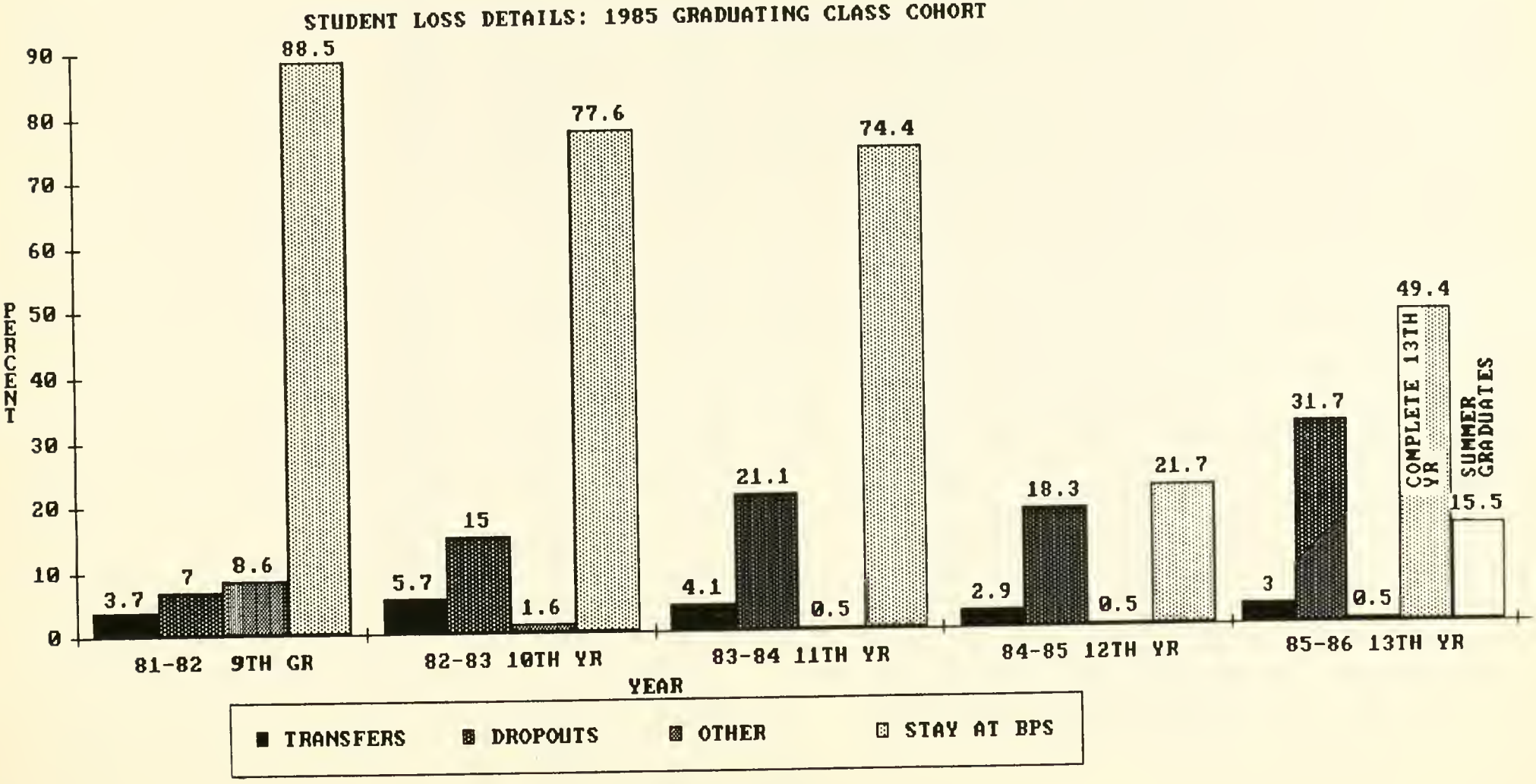
EXHIBIT 9

This exhibit depicts the components of student loss and progress for the 1985 graduating class cohort, by following them from their entry into the 9th grade in 1981 through a 13th year.

As is readily evident, transfers out peaked in the 10th grade year (5.7%) and decreased thereafter to about 3% per year. Dropouts increase gradually each year, peaking at 21% in the third high school year (i.e., 11th grade for those promoted every year). It is important to note that about 1 in 3 (32%) students kept back one or more years who go into a 13th year drop out that year. Clearly, nonpromotion at the high school level is an at-risk condition. Data from a 13th year has not been previously studied at BPS, or included in cohort analyses; clearly, this is an important element to consider in attempting to understand the dropout problem.

The number of students who stay at BPS and progress normally decreases slightly each high school year, as dropout and transfer rates increase. By the 12th grade most students graduate, while 1 in 5 go on to summer school or a 13th year. Of those who go on, 16% graduated in the summer of 1985, 32% dropped out during the year, and almost half (49.4%) will be completing their 13th year this June and many will graduate then.

Exhibit 9



SOURCE. Office of Research and Development, May 1986

EXHIBIT 10

This exhibit depicts a 4-year trend in the cohort rates of dropout, transfers, graduation, and other student loss/progress details. Several trends are evident:

(1) the cohort dropout rate is increasing; from 36% in the 1982 graduating cohort to 43% in 1985.

(2) the cohort rate of transfers is decreasing; from 13.5% in the 1982 graduating cohort to 11.7% in 1985.

(3) the "other loss" has been reduced in half; from 6.3% to 3%

(4) the cohort rate of graduates (including summer school) has decreased slightly from 38% to 36%, but has remained stable at about 36% for a couple of years.

(5) the cohort rate of students required to continue a 13th year and those successfully completing a 13th year has increased from 5.3% to 6.4%

These trends suggest several patterns. First, the dropout rate has been increasing while the graduation rate has remained relatively stable. thus, dropouts appear to be increasing mostly from among the ranks of students at some risk. This is probably a function of a couple of factors: (1) increased promotional standards and curricula demands in the face of insufficient supports for at-risk students; (2) the growing poverty rate (and its sequelae) in Boston may be pushing more at-risk students out while providing decreased opportunities for transferring to other systems. The notion of increased promotional and curricula demands is further supported by the increasing cohort rate of nonpromotions and of students who must stay for a 13th year. Taken together, these trends are strongly suggestive of the need for more supportive services, remedial and alternative programs within BPS.

EXHIBIT 10

BPS Student Loss 1982-1985
(Cohort Method)

Graduating Class Cohort	Dropouts	Transfers	Other Loss	Graduates	Summer Graduates	Completed 13th Year
1982	36.2%	13.5%	6.3%	36.6%	1.6%	5.3%
1983	38%	13.4%	4.8%	34.4%	2.7%	5.6%
1984	40.7%	12.3%	4.3%	33.1%	3%	6.6%
1985	43%	11.7%	3%	33.9%	2%	6.4%

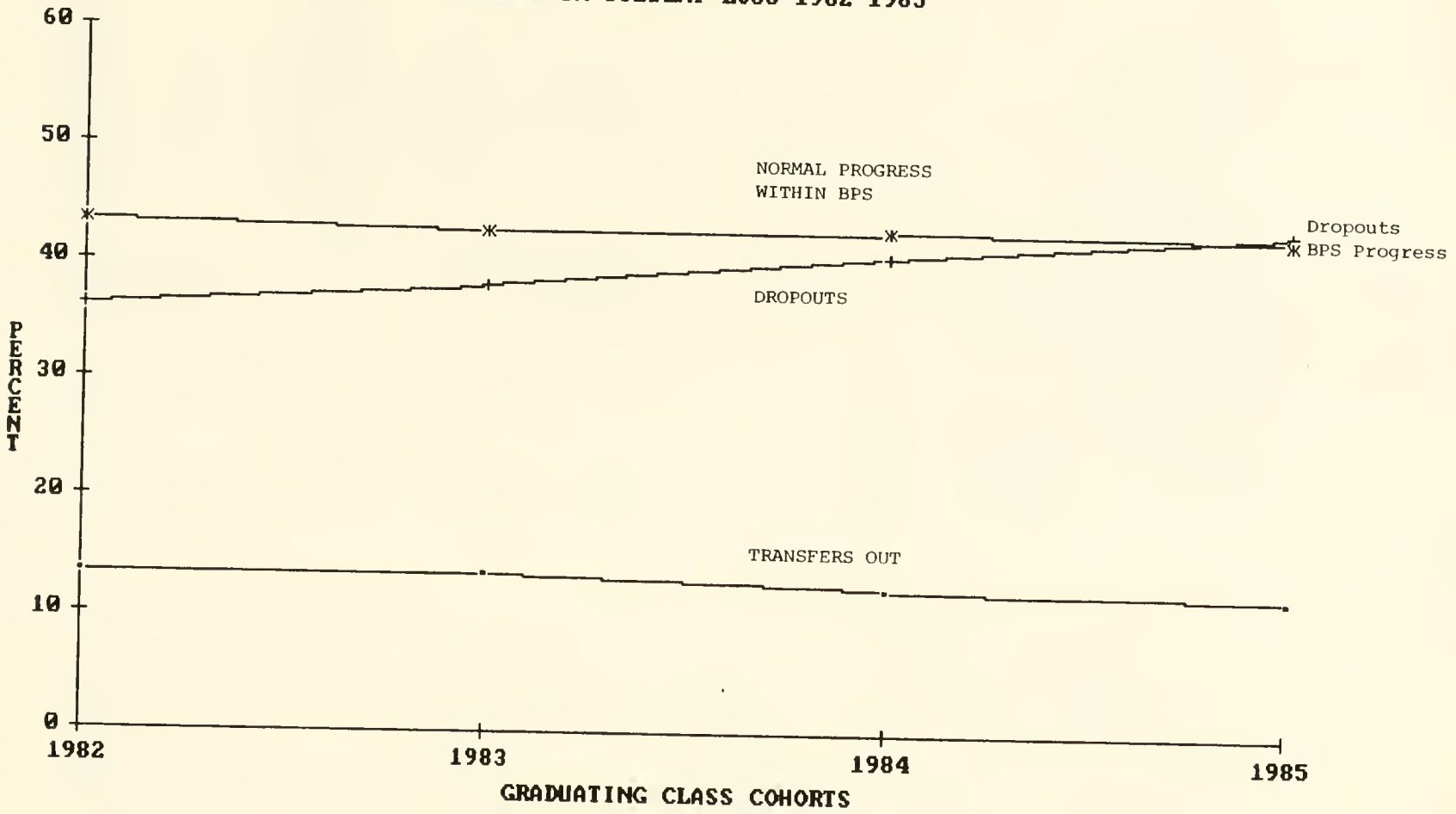
EXHIBIT 11

This exhibit summarizes and graphically depicts the trends described in exhibit 10. We can see a gradual decrease in the cohort rate of transfers out, a stable pattern for those students who progress through the high school years at BPS, and an increasing dropout rate. By 1985, the cohort dropout rate exceeds the rate of students who stay at BPS throughout their high school tenure. Succinctly, BPS is now losing more high school students to dropout than it is processing through to graduation, summer school, or a 13th academic year.

Exhibit 12 presents details of each graduating class cohort from 1982 through 1985.

Exhibit 11

TRENDS IN STUDENT LOSS 1982-1985



COHORT YEAR	TRANSFERS OUT	DROPOUTS	NORMAL PROGRESS WITHIN BPS
1985:	716 11.7%	2640 43.%	2595 42.3%
1984:	738 12.3%	2436 40.7%	2563 42.8%
1983:	831 13.4%	2354 38.%	2638 42.6%
1982	867 13.5%	2318 36.2%	2785 43.5%

SOURCE: Office of Research & Development, May 1986

EXHIBIT 12

This exhibit presents details of graduating class cohort studies for 1982, 1983, 1984, and 1985.

EXHIBIT 12
1982-1985 Cohort Details

1985 Graduating Class Cohort (1981 9th Graders)

Year

1981-82 9th Grade (base=6136)		
Transfers Out =	224	3.7%
Dropouts =	(372)	(6.1%)
Prob. Dropouts=	(58)	(0.9%)
Total Dropouts=	430	7%
Other =	53	8.6%
Stay at BPS =	5429	88.5%

1982-83 10th Grade (base=5575*)	
319	5.7%
(747)	(13.4%)
(92)	(1.7%)
839	15.%
89	1.6%
4328	77.6%

*Baseline shows an enrollment increase of 146; these are students who re-entered BPS after leaving or changed their discharge codes (their minds to leave)

1983-84 11th Grade (base=4739)		
Transfers Out =	192	4.1%
Dropouts =	(964)	(20.3%)
Prob. Dropouts=	(36)	(0.8%)
Total Dropouts=	1000	21.1%*
Other =	22	0.5%
Stay at BPS =	3525	74.4%
Graduates =	-	-

*Baseline shows an enrollment increase of 411; these are students who re-entered BPS after leaving or changed their discharge codes (their minds to leave)

1984-85 12th Grade (base=3674)	
108	2.9%
(650)	(17.7%)
(24)	(0.6%)
674	18.3%
17	0.5%
796	21.7%
2079	56.6%

1985-86* 13th Year (base=796)		
Transfers Out =	24	3.0%
Dropouts =	(241)	(30.3%)
Prob. Dropout =	(11)	(1.4%)
Total Dropout =	252	31.7%
Other =	4	0.5%
Stay at BPS =	-	-
Summer Grads =	123	15.5%
13th Year Enrollees =	393	49.4%

*Through April 24, 1986

Summary	
716	11.7%
--	--
--	--
2640	43%
185	3%
2595	42.3%
6136*	

*706 students appear to have re-entered BPS after leaving. This "loss regained" has been proportionately allocated to transfers and dropouts (.2134 for 151 transfers; .7866 for 555 dropouts).

1984 Graduating Class Cohort (1980 9th Graders)

Year

1980-81 9th Grade (base=5992)			1981-82 10th Grade (base=5329)	
Transfers Out =	217	3.6%	280	5.3%
Dropouts =	(328)	(5.5%)	(549)	(10.3%)
Prob. Dropouts=	(44)	(0.7%)	(114)	(2.1%)
Total Dropouts=	372	6.2%	663	12.4%
Other =	73	1.2%	60	1.1%
Stay at BPS =	5330	88.95%	4326	81.2%

1982-83 11th Grade (base=4508*)			1983-84 12th Grade (base=3706*)	
Transfers Out =	201	4.5%	93	2.5%
Dropouts =	(647)	(14.4%)	(624)	(16.8%)
Prob. Dropouts=	(69)	(1.5%)	(34)	(0.9%)
Total Dropouts=	716	15.9%	658	17.8%
Other =	94	2.1%	19	0.5%
Stay at BPS =	3497	77.8%	950	25.6%
Graduates =	-	-	1986	53.6%

*Probably return enrollment from previous transfers and dropouts = 182

*Additional re-enrollment = 209

1984-85 13th Year (base=950)			Summary	
Transfers Out =	38	4%	738	12.3%
Dropouts =	(313)	(32.9%)	--	--
Prob. Dropouts=	(13)	(1.4%)	--	--
Total Dropouts=	326	34.3%	2436	40.7%
Other =	9	0.9%	255	4.3%
Stay at BPS =			2563	42.8%
			5992*	
Summer Grads =	179	18.8%		
13th Year enrollees =	398	41.9%		

*390 students re-entered BPS after leaving. This "loss regained" has been proportionately allocated to transfers and dropouts (.2326 for 91 transfers) (.7674 for 299 dropouts).

1983 Graduating Class Cohort (1979 9th Graders)

Year

1979-80 9th Grade (base=6187)		
Transfers Out =	327	5.3%
Dropout =	(401)	6.5%
Prob. Dropouts=	(41)	0.7%
Total Dropouts=	442	7.1%
Other =	90	1.5%
Stay at BPS	5328	86.1%

1980-81 10th Grade (base=5277*)	
235	4.5%
(432)	(8.2%)
(88)	(1.7%)
520	9.9%
80	1.5%
4442	84.2%

*Enrollment drop of 51(?)

1981-82 11th Grade (base=4455*)		
Transfers Out =	171	3.8%
Dropouts =	(545)	(12.2%)
Prob. Dropouts=	(80)	(1.8%)
Total Dropouts=	625	14.%
Other =	45	1.%
Stay at BPS =	3614	81.1%
Graduates =	-	-

*Enrollment gain of 13 (returnees)

1982-83 12th Grade (base=3586*)	
68	1.9%
(445)	(12.4%)
(37)	(1.%)
482	13.4%
69	1.9%
840	23.4%
2127	59.3

*Enrollment drop of 28 (?)

1983-84 13th Year (base=840)		
Transfers Out =	30	3.6%
Dropouts =	(271)	(32.3%)
Prob. Dropouts=	(14)	(1.7%)
Total Dropouts=	285	33.9%
Other =	14	1.7%
Stay at BPS =	--	--
Summer Grads =	164	19.5%
13th Year Enrollees =	347	41.3%

Summary

831	13.4%
--	--
--	--
2354	38%
298	4.8%
2368	42.6%
6187*	

*66 students missing from this analysis cannot be assigned to loss categories.

1982 Graduating Class Cohort (1978 9th Graders)

Year

1978-79 9th Grade (base=6399)		
Transfers Out =	311	4.9%
Dropouts =	(368)	(5.8%)
Prob. Dropouts=	(68)	(1.1%)
Total Dropouts=	436	6.8%
Other =	107	1.7%
Stay at BPS =	5545	86.7%

1979-80 10th Grade (base=5664*)	
314	5.5%
(586)	(10.3%)
(126)	(2.2%)
712	12.3%
140	2.5%
4498	79.4%

*Enrollment increase of 119 (returnees?)

1980-81 11th Grade (base=4491*)		
Transfers Out =	146	3.3%
Dropouts =	(397)	(8.8%)
Prob. Dropouts=	(77)	(1.7%)
Total Dropouts=	474	10.6%
Other =	80	1.8%
Stay at BPS =	3791	84.4%
Graduates =	-	-

*Enrollment reduction of 7 (?)

1981-82 12th Grade (base=3655*)	
73	2.%
(396)	(10.8%)
(53)	(1.5%)
449	12.3%
36	1%
755	20.7%
2342	64.1%

*Enrollment increase of 136

1982-83 13th Year (base=755)		
Transfers Out =	23	3%
Dropouts =	(225)	(29.8%)
Prob. Dropouts=	(22)	(2.9%)
Total Dropouts=	247	32.7%
Other =	42	5.6%
Stay at BPS =	-	-
Summer Grads =	104	13.8%
13th Year Enrollees =	339	44.9%

Summary

867	13.5%
2318	36.2%
--	--
--	--
405	6.3%
2785	43.5%
6399*	
--	--

*24 students missing from this analysis cannot be assigned to loss categories.

C. WHO DROPS OUT?

- Dropouts by Gender
- Dropouts by Race
- Enrollment and Dropout by Race
- Dropouts by Grade
- Dropouts by District
- Dropouts by School

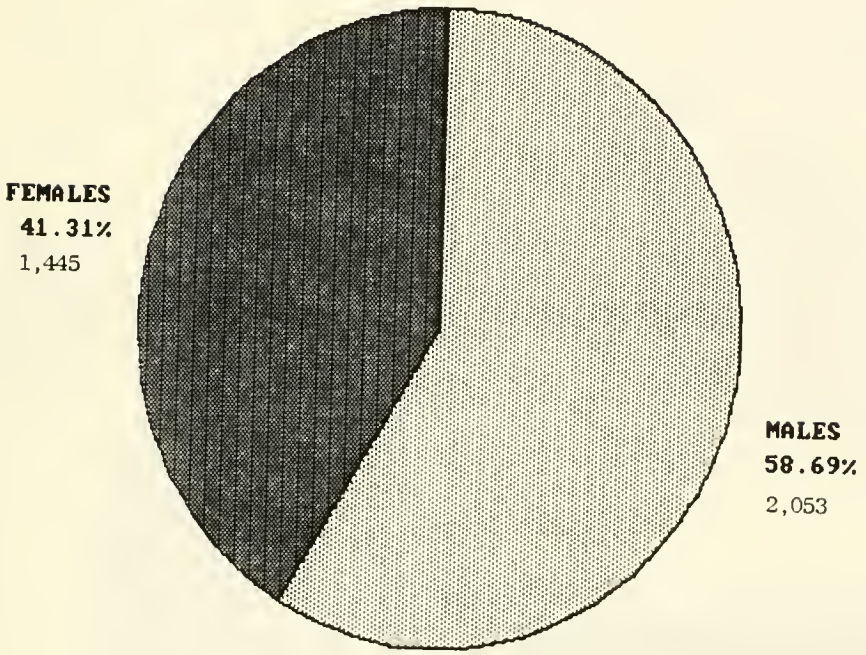
EXHIBIT 13

DROPOUTS BY GENDER, 1984-85

This exhibit clearly depicts a national pattern where male dropouts greatly outnumber female dropouts. In this case, about 1.5 to 1. Unfortunately, BPS data is not very informative on the causes of dropout among high school women. Nevertheless, national statistics and anecdotal evidence suggest high rates of premature pregnancies among female BPS dropouts.

Exhibit 13

DROPOUTS BY GENDER 1984-1985



CROSS TABULATION, 1984-85 DROPOUTS BY GENDER*

Students Row % Column %	DROPOUT	TRANSFER	STAY AT BPS
FEMALE	1445 14.4% 41.3%	775 7.7% 49.0%	7837 77.9% 48.6%
MALE	2053 18.4% 58.7%	806 7.2% 51.0%	8303 74.4% 51.4%

*Chi Sq = 62.4, df = 2, P< .00001; Kendall's Tau = -.04, P< .00001

SOURCE: Office of Research & Development, May 1986

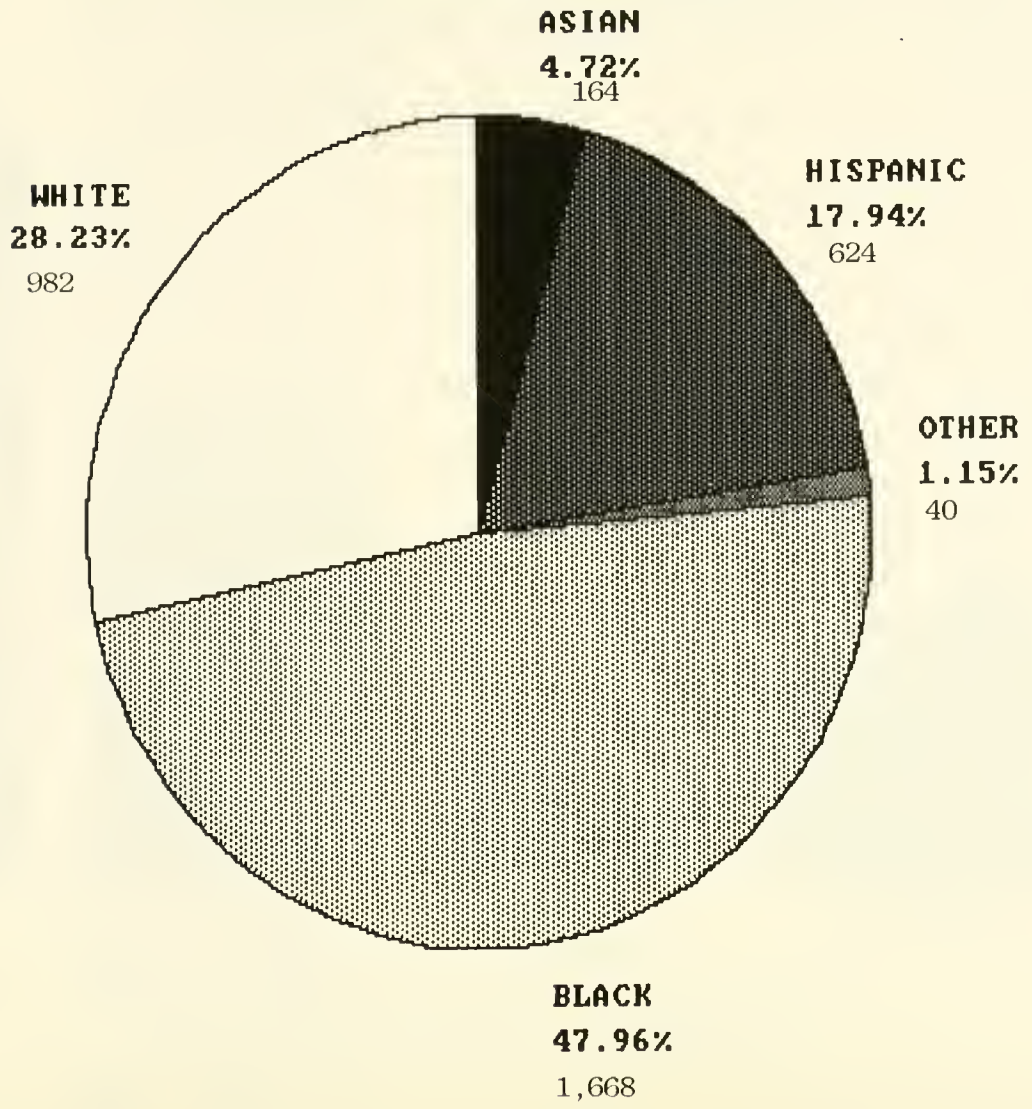
EXHIBIT 14

DROPOUT BY RACE, 1984-85

The majority of BPS dropouts are Black (48%), followed by White (28%), Hispanic (18%), and Asian (5%). However, this is also the race pattern of high school enrollment. To assess disproportion in dropout among various race groups, it is necessary to control for high school enrollment. That analysis is depicted in the exhibit that follows.

Exhibit 14

DROPOUTS BY RACE 1984-1985



SOURCE: Office of Research & Development, May 1986.

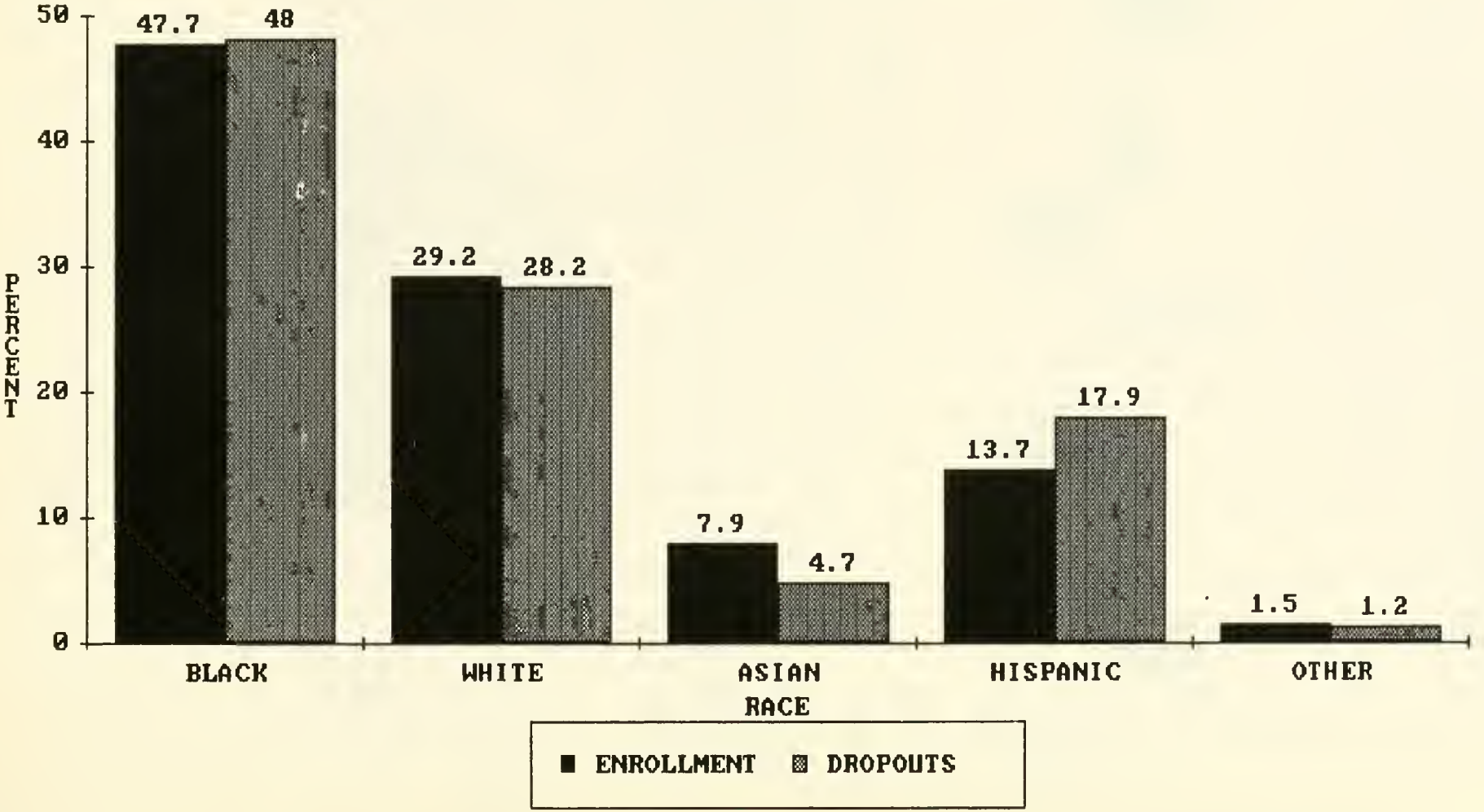
EXHIBIT 15

ENROLLMENT AND DROPOUT BY RACE 1984-85

This exhibit compares summative enrollment (July 1984 through June 1985) and high school dropout by race. As is readily evident, the numbers of Black dropouts (48%) are proportionate to enrollment, and white dropouts (28%) are slightly under enrollment. In the case of Asians (4.7%) and Hispanics (17.9%), however, dropouts are disproportionate to enrollment. Asian students have dropouts 40% lower than their high school enrollment, whereas dropout among Hispanic students is 31% greater than their proportion among high school enrollment.

Exhibit 15

ENROLLMENT AND DROPOUT PERCENTAGES BY RACE 1984-85 *



* Enrollment includes all students enrolled July 1984 through June 1985. Chi Square = 292.99, df=10, $p < .00001$.

SOURCE: Office of Research & Development, May 1986.

EXHIBIT 16

DROPOUTS BY STUDENT GRADE, FALL 1985

LIKELIHOOD OF DROPPING OUT

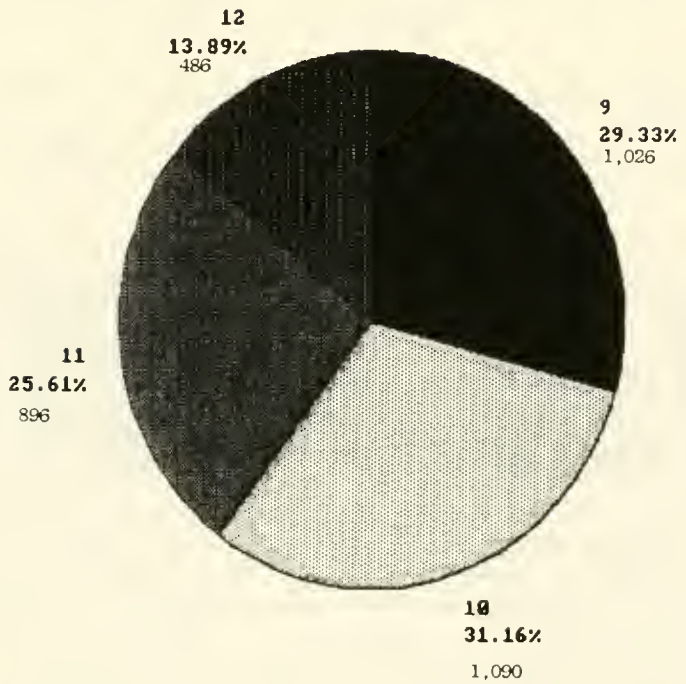
The top half of this exhibit (pie chart) depicts 1984-85 dropouts grouped by grade; 29% were 9th graders, 31% were 10th graders, and so on. At first inspection, it appears that 9th and 10th grades produce a disproportionate share of dropouts. Yet enrollment differs by grade, and the 9th and 10th grades had the largest enrollments in 1984-85.

The bottom half of this exhibit depicts the likelihood of dropping out, transfering or continuing at BPS for each grade in 1984-85:

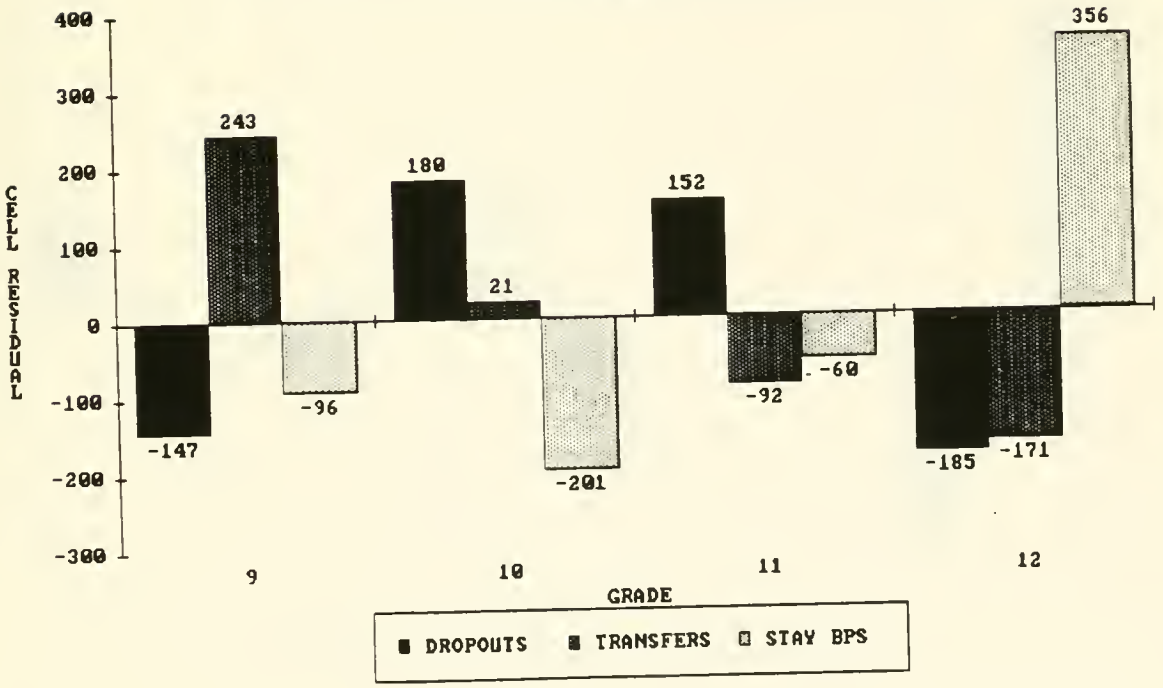
- 9th graders are more likely to transfer than to dropout or stay at BPS.
- 10th and 11th graders are more likely to dropout, and should be considered the most at-risk years. Since dropouts (as we shall see) often repeat grades and have lower academic performance, this suggests that most students who drop out do not do so when turning 16, but are more likely to be 17 or 18 and in the 10th or 11th grades.
- Seniors are not likely to dropout or transfer, and are most likely to stay at BPS.

Exhibit 16

DROPOUTS BY STUDENT GRADE IN THE FALL OF 1984



1984-85 LIKELIHOOD OF DROPPING OUT, TRANSFERING, OR STAYING IN BPS, GRADES 9-12*



* Figures presented represent cell residuals comparing expected dropouts or transfers by grade (proportionatelly adjusted by grade enrollment) with actual dropouts, transfers, etc. Figures are only used to depict the statistical effect (Chi Suare = 424., df = 6, p < .00001).

SOURCE: Office of Research & Development, May 1986.

EXHIBIT 17

HIGH SCHOOL STUDENT LOSS BY DISTRICT, 1984-85

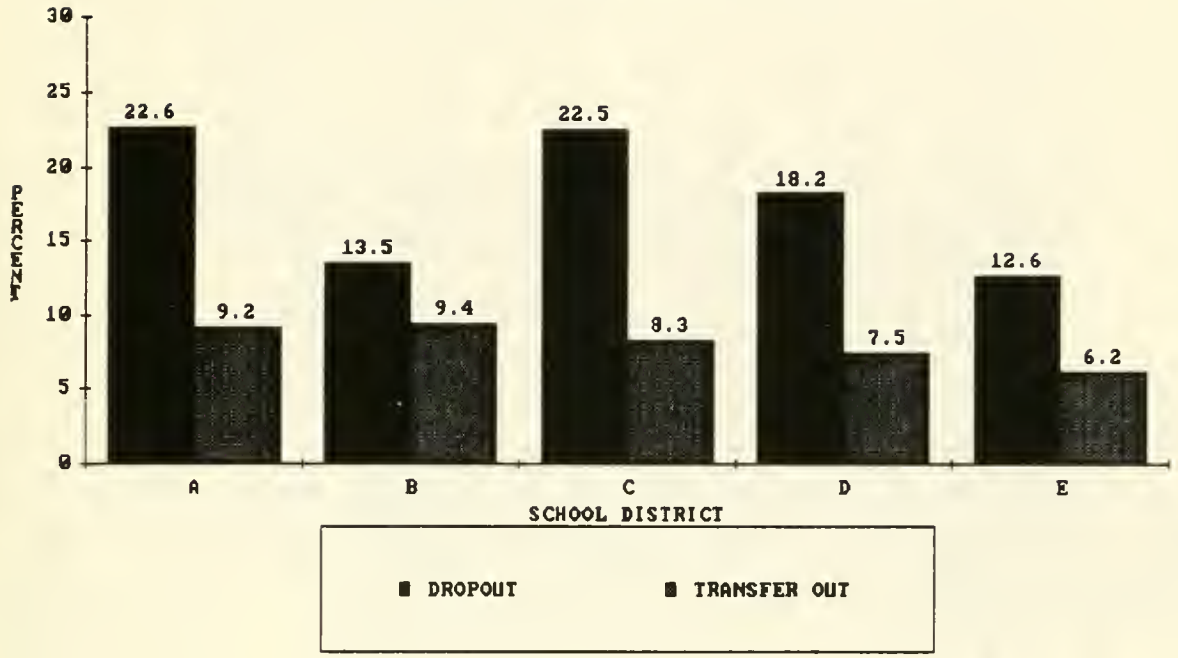
1984-85 LIKELIHOOD OF DROPOUT BY DISTRICT

The top half of this exhibit (bar graph) depicts student loss by district, expressed as a percentage of summative enrollment. The highest percent of dropouts are in districts A, C, and D; specifically, in old districts 1 and 2, 5 and 6, and 7 (not shown). Old districts 9 and 3 have the lowest dropout percentages. Transfers out of BPS are relatively stable across districts.

When we review the likelihood of dropping out, transferring, or staying at BPS by district (deviation column chart, bottom half), we see a higher than average likelihood of dropout only in districts C and A. The likelihood of transferring out is generally even, but highest for districts B, A, and C, and much lower than average in citywide district E. It is not surprising that district E, a citywide magnet district, also shows a very strong likelihood for students to remain at BPS, while students in districts C and A are less likely to stay at BPS.

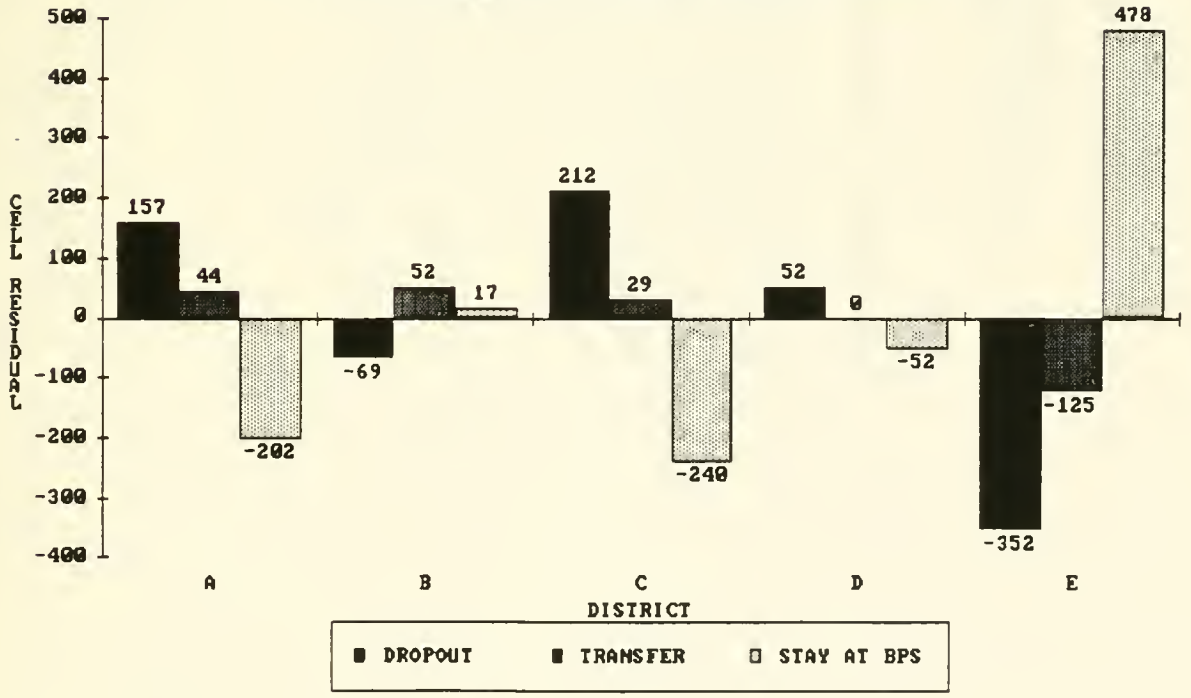
Exhibit 17

HIGH SCHOOL STUDENT LOSS BY SCHOOL DISTRICT, 1984-85*



*Chi Square = 364.28, df = 8, P< .00001
*Dropout and transfers expressed as percentage of summative enrollment by district from July 1984 through June 1985

1984-85 LIKELIHOOD OF HIGH SCHOOL DROPOUT, TRANSFER, AND STAYING AT BPS; SCHOOL DISTRICTS A-E



*Figures presented represent all residuals comparing expected dropouts or transfers by district (proportionately adjusted by enrollment) with actual dropout, transfers, and normal progress. Residuals are only used to depict the statistical effect (Chi Square = 364.28, df = 8, P< .00001)

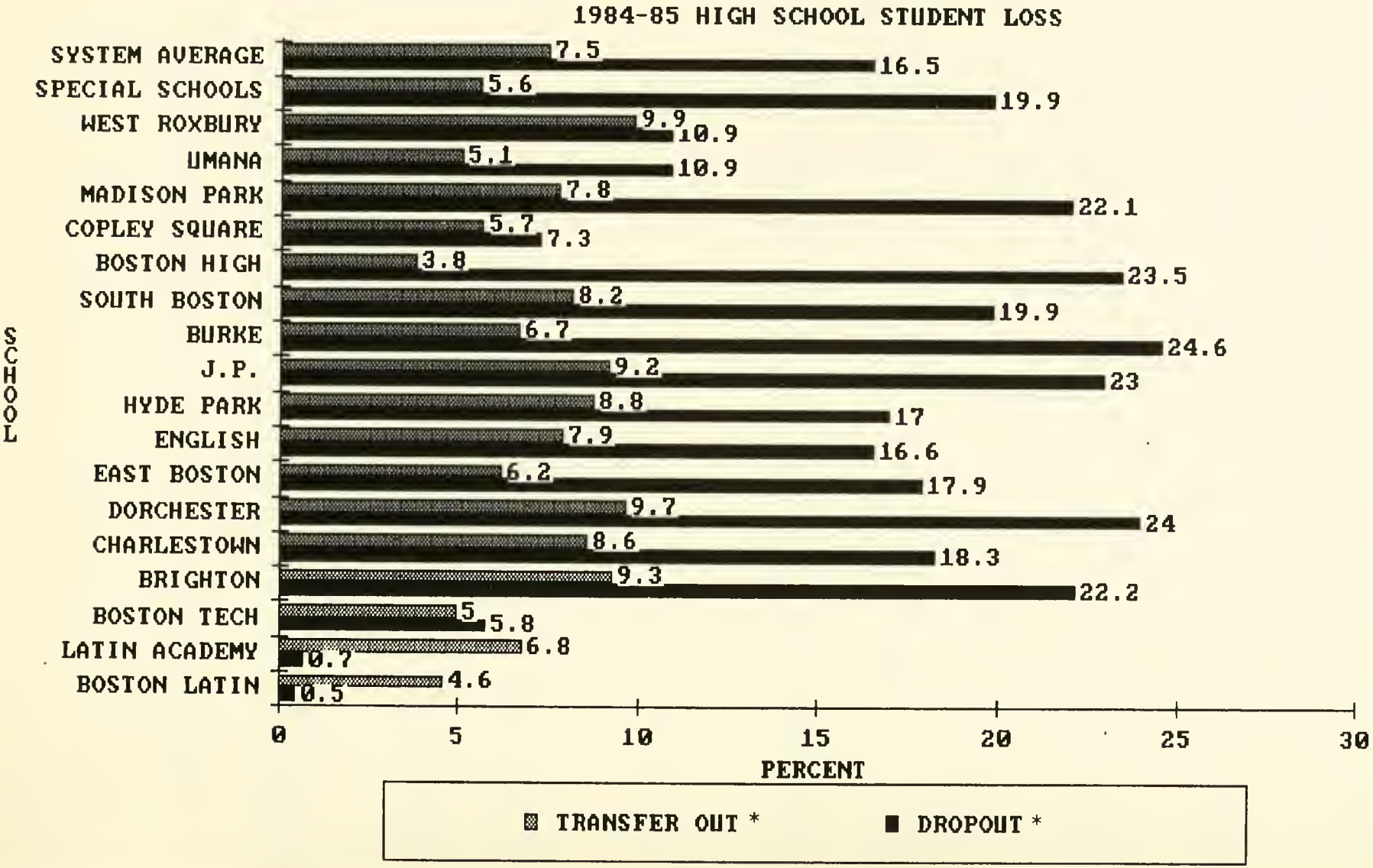
SOURCE: Office of Research & Development, May 1986

EXHIBIT 18

1984-85 HIGH SCHOOL STUDENT LOSS

This exhibit compares the numbers of transfers and dropouts for each high school, expressed as a percentage of summative enrollment. By this method, the greatest dropout loss in 1984-85 took place at the Burke, followed by Dorchester High, Boston High, Jamaica Plain, Brighton and Madison Park. The highest percentage of transfers out of BPS took place at West Roxbury, Dorchester, Brighton, Jamaica Plain, Hyde Park, Charlestown, and South Boston.

Exhibit 18



*Expressed as a percentage of summative enrollment July 84 - June 85

D. CAUSAL ANALYSES: (Matched to the Research Literature)

- SES
- Local/Regional Economics
- Ed Progams: SPED
  VOCED
  BILED
  BILED As A Supportive Structure

- School Failure: Nonpromotion
  Performance (Basic Skills, MET, DRP)

- Getting into Trouble: Premature Pregnancy
  Lateness
  Truancy
  Delinquency
  Probation
  Suspensions

- Alienation

While all of the factors listed above are strongly implicated with dropout in the research literature, available BPS data limits the areas and extent to which we can explore these analyses in Boston.

SES. At present, BPS lacks an indicator of student socio-economic status. Proxies for SES (e.g., eligibility for school lunches, Chapter I, etc.) have proven poor indicators likely to distort the effects of SES.

Local/Regional Economy. There is no data available on the effects of local/regional economic factors on BPS students.

Getting Into Trouble. Data in this area are limited mostly to suspensions and indicators of school failure. No data are available on major "in trouble" indicators such as delinquency and adjudication, or premature pregnancies (a major contributor to female dropout in the literature).

Alienation. No indicators are currently available in the areas of student expectations and attitudes towards school, or self-image or worth.

As a result, the analyses that follow focus on the relationship between dropout and participation in educational programs, school failure and attainment, and suspensions.

Dropout by Educational Program

- Vocational Education
- Special Education
- Bilingual Education
    - By Lau Category
- Likelihood of Student Loss by Program
- Likelihood of Student Loss within the Bilingual Program, by Language Group
- Comparison of the Likelihood of Student Loss between Bilingual and other Programs (Comparisons by Race Group)
- Bilingual Education as a Support Structure

EXHIBIT 19

1984-85 VOCATIONAL & SPECIAL EDUCATION PROGRAMS
AND HIGH SCHOOL DROPOUTS

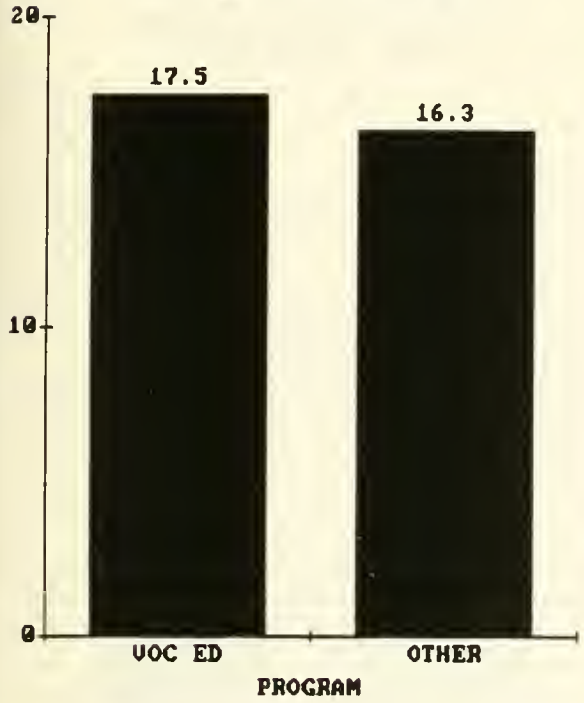
This exhibit depicts the relationship between dropout and special education and vocational education programs. The research literature has established a relationship between higher likelihood of dropout and enrollment for both special and vocational education. By and large, BPS data supports this finding.

Students in special education programs have a significantly higher percentage of dropouts (and lower percentage of transfers out, as expected) than other students. This relationship does not extend to program levels within SPED. students in more or less restrictive programs (i.e., .1 through .4) do not differ significantly in the likelihood that they will dropout.

Vocational education students, on the other hand, are somewhat more likely to dropout (and somewhat less likely to transfer out) than other students. Yet the relationship is only marginally significant and the difference small. By and large, it seems that BPS vocational education programs are not as strong contributors to dropout as the national research literature would predict.

Exhibit 19

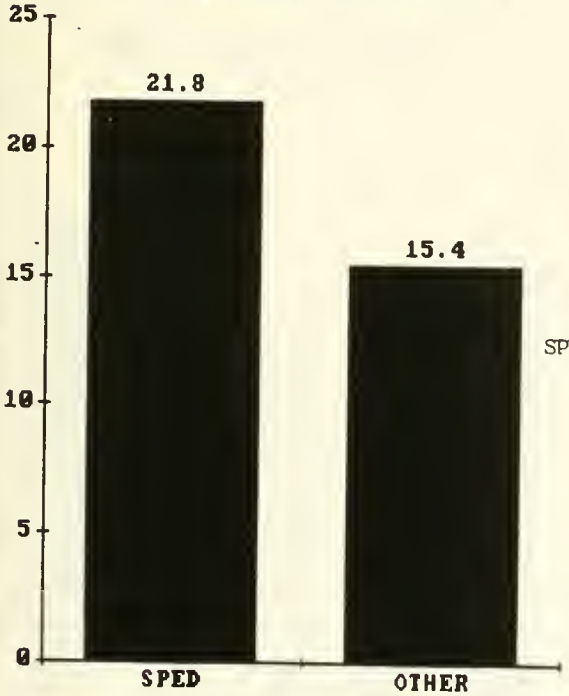
1984-85 VOCATIONAL EDUCATION AND HIGH SCHOOL DROPOUTS*



VOCATIONAL EDUCATION*	DROPOUTS	TRANSFERS	STAY AT BPS
YES	672 17.5%	263 6.9%	2897 75.6%
NO	2826 16.3%	1318 7.6%	13,243 76.2%

*Chi Square = 5.43, df = 2, P .066

1984-85 SPECIAL EDUCATION & HIGH SCHOOL DROPOUTS



SPECIAL EDUCATION*	DROPOUTS	TRANSFERS	ENROLLED AT BPS
YES	778 21.8%	177 5.0%	2609 73.2%
NO	2720 15.4%	1404 8.0%	13531 76.6%

*Chi Sq = 114.3, df = 2, P< .00001; Kendall's tau = .025, P < .00001; within SPED programs, there is no statistical effect on school dropout by program level (.1 through .4): Chi sq = 6.03, df = 6, P> .4

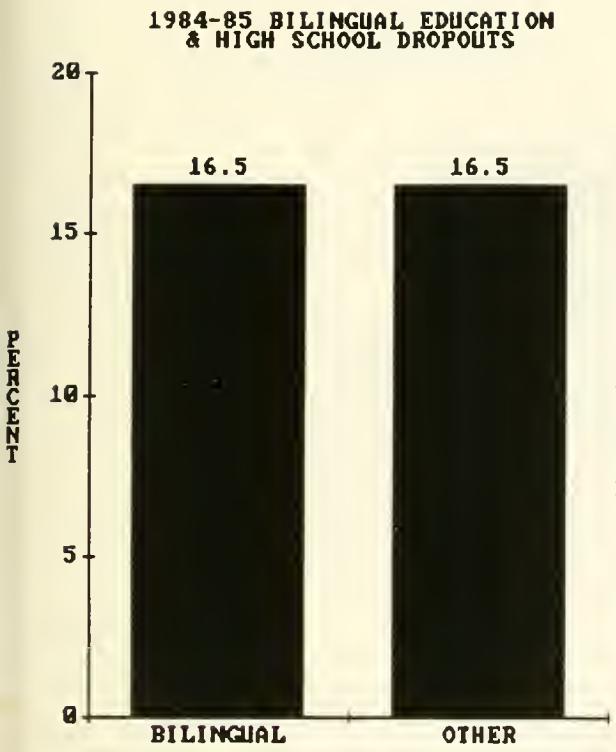
EXHIBIT 20

1984-85 DROPOUTS AND BILINGUAL EDUCATION PROGRAMS

Although the national research literature reports higher dropout rates among students enrolled in Bilingual Programs, BPS data shows that Bilingual Programs (see top bar graph) are no more likely than any other program to contribute to the dropout problem. Given this deviation from the research literature, further explorations were conducted.

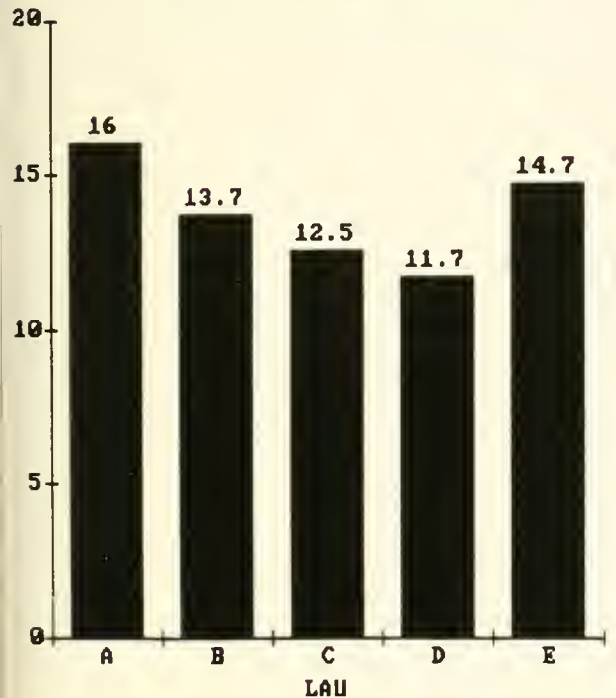
Review of dropouts by Lau category (assigned at the point of entry to BPS), shows higher dropout percentages among Lau category A (students monolingual in a language other than English) and in category E (fully mainstreamed students). All other Lau categories depicted dropout percentages below the average for BPS, suggesting a possible buffering function.

Exhibit 20



BILINGUAL EDUCATION*	DROPOUTS	TRANSFERS	ENROLLED AT BPS
YES	398 16.5%	184 7.6%	1827 75.8%
NO	3100 16.5%	1397 7.4%	14,313 76.1%

*Chi Square = 0.15, df = 2, P > .9



	LAU CATEGORY*				
	A	B	C	D	E
DROPOUT	293 16.0%	106 13.7%	147 12.5%	77 11.9%	1979 14.7%
TRANSFER	143 7.8%	56 7.3%	58 4.9%	52 8.1%	804 6.0%
STAY	1400 76.3%	609 79.%	975 82.6%	516 80.%	10637 79.3%

*Chi Square = 30.0, df = 8, P < .0002

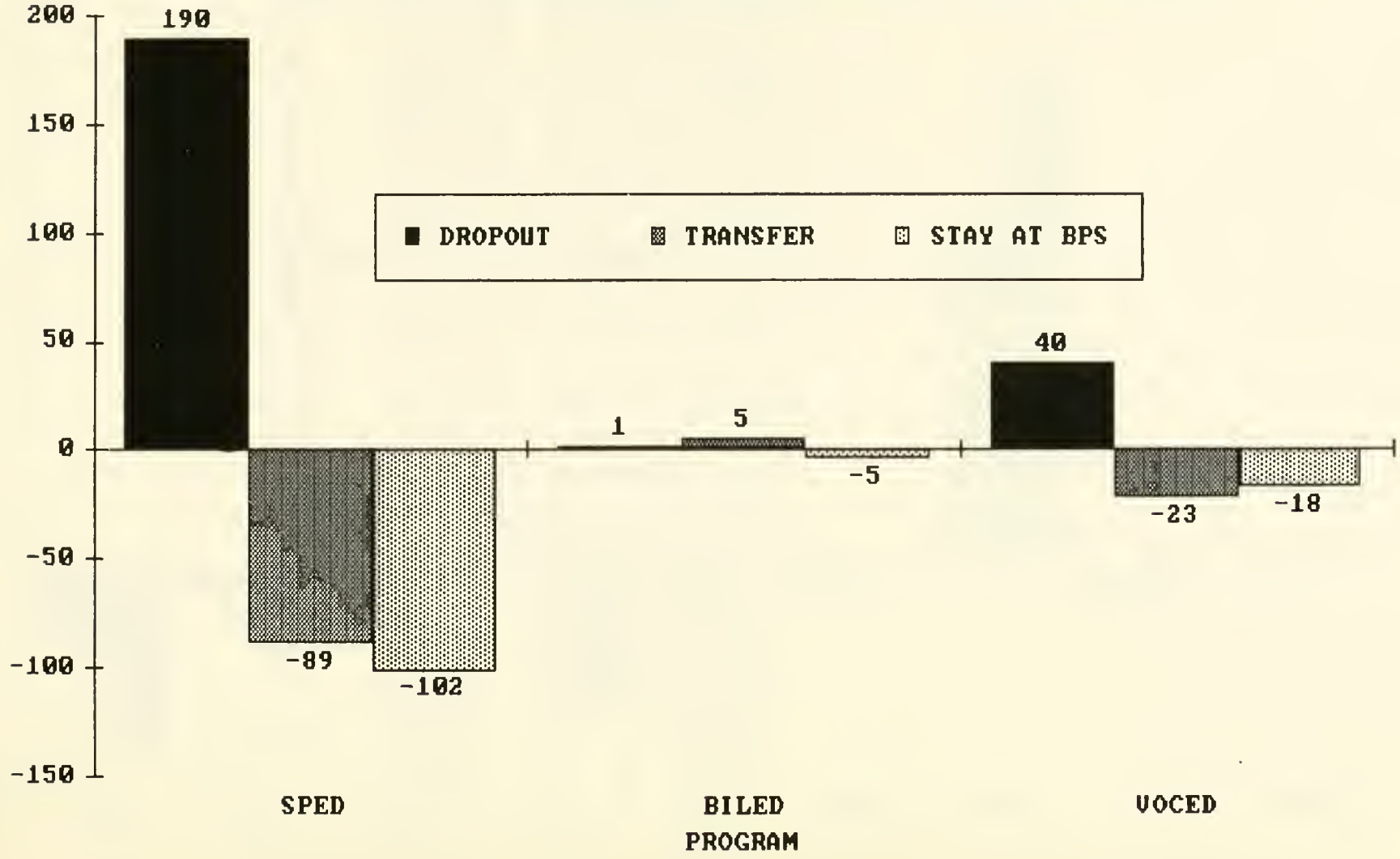
EXHIBIT 21

1984-85 LIKELIHOOD OF STUDENT LOSS BY PROGRAM

In summary, then, this exhibit depicts the likelihood of dropout, transfer, or staying at BPS of student in SPED, BILED, and VOCED Programs. As is readily evident, the likelihood of dropout is high for SPED students and less so for VOCED students. Both SPED and VOCED students are also less likely to transfer out of BPS. Bilingual education students, on the other hand, are no more likely to dropout or transfer out than other students.

Exhibit 21

1984-85 LIKELIHOOD OF STUDENT LOSS BY PROGRAM: SPECIAL EDUCATION, BILINGUAL EDUCATION, AND VOCATIONAL EDUCATION*



*SPED Chi Sq = 114.3, df = 2, P < .00001; BILED Chi Sq = 0.1, df = 2, P > .9, VOCED Chi Sq = 5.43, df = 2, P < .07

EXHIBIT 22

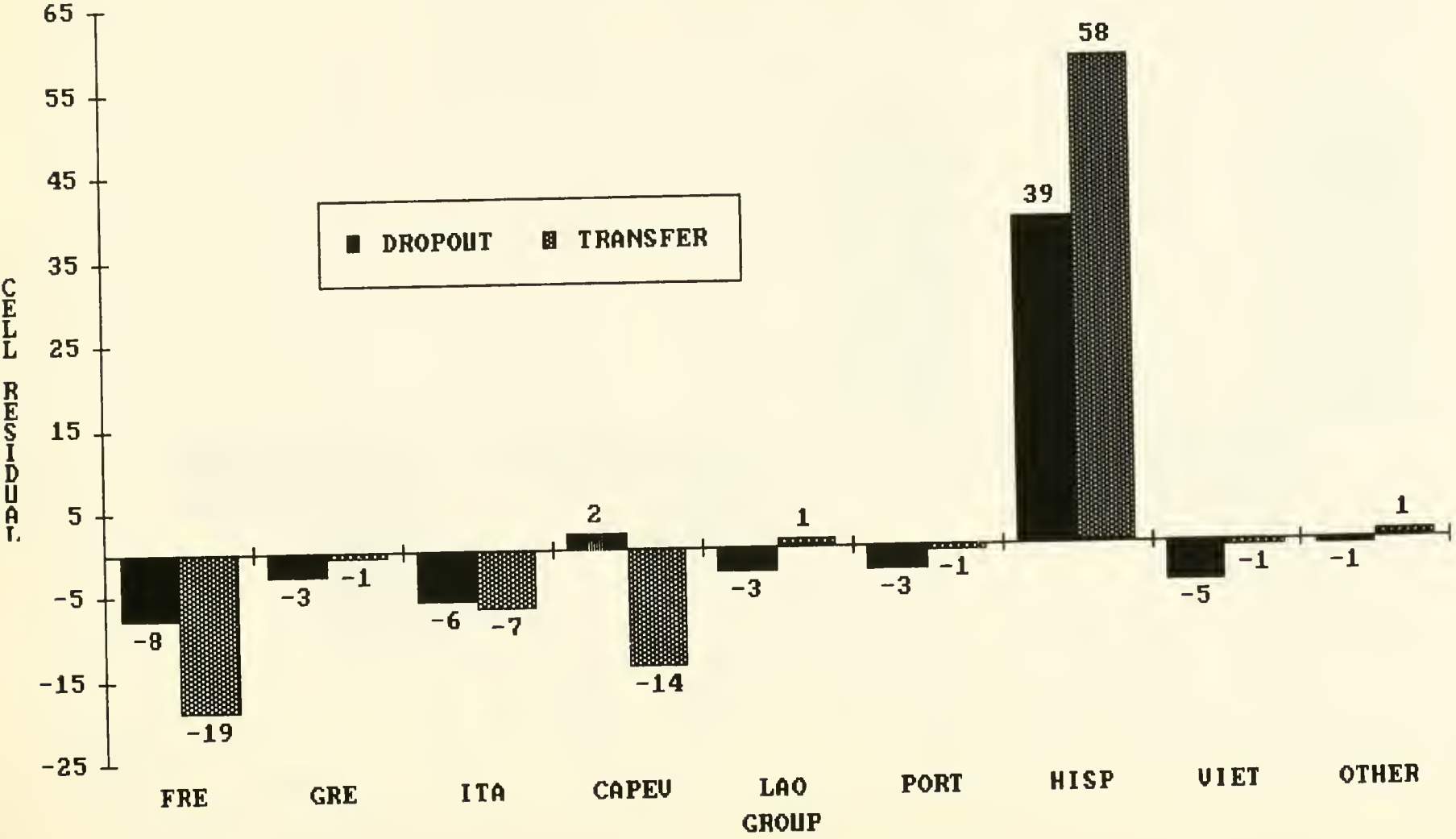
1984-85 BILINGUAL PROGRAM LIKELIHOOD OF STUDENT LOSS
BY LANGUAGE GROUP

A preceding exhibit showed that, contrary to national trends, the BPS Bilingual Program is not any more likely than any other education program to contribute to the dropout problem. Given this deviation from the national norm, we looked at the BPS Bilingual Program somewhat more closely.

This exhibit depicts the likelihood of student loss within the BPS Bilingual Program, by linguistic groups. As is readily evident, most language groups in the Bilingual Program are unlikely to dropout or transfer out of BPS, with one exception: Hispanic bilingual students. Hispanic students in the Bilingual Program are more likely to dropout or transfer out than other students in the Bilingual Program. Given that Hispanics constitute the largest linguistic group in the Bilingual Program, special attention must be paid to the needs of these students within the Program.

Exhibit 22

1984-85 BILINGUAL PROGRAM LIKELIHOOD OF STUDENT LOSS BY LANGUAGE GROUP*



*Chi Sq = 135.9, df = 22, P< .00001

EXHIBIT 23

1984 BILINGUAL EDUCATION PROGRAM:
LIKELIHOOD OF STUDENT LOSS BY RACE GROUP

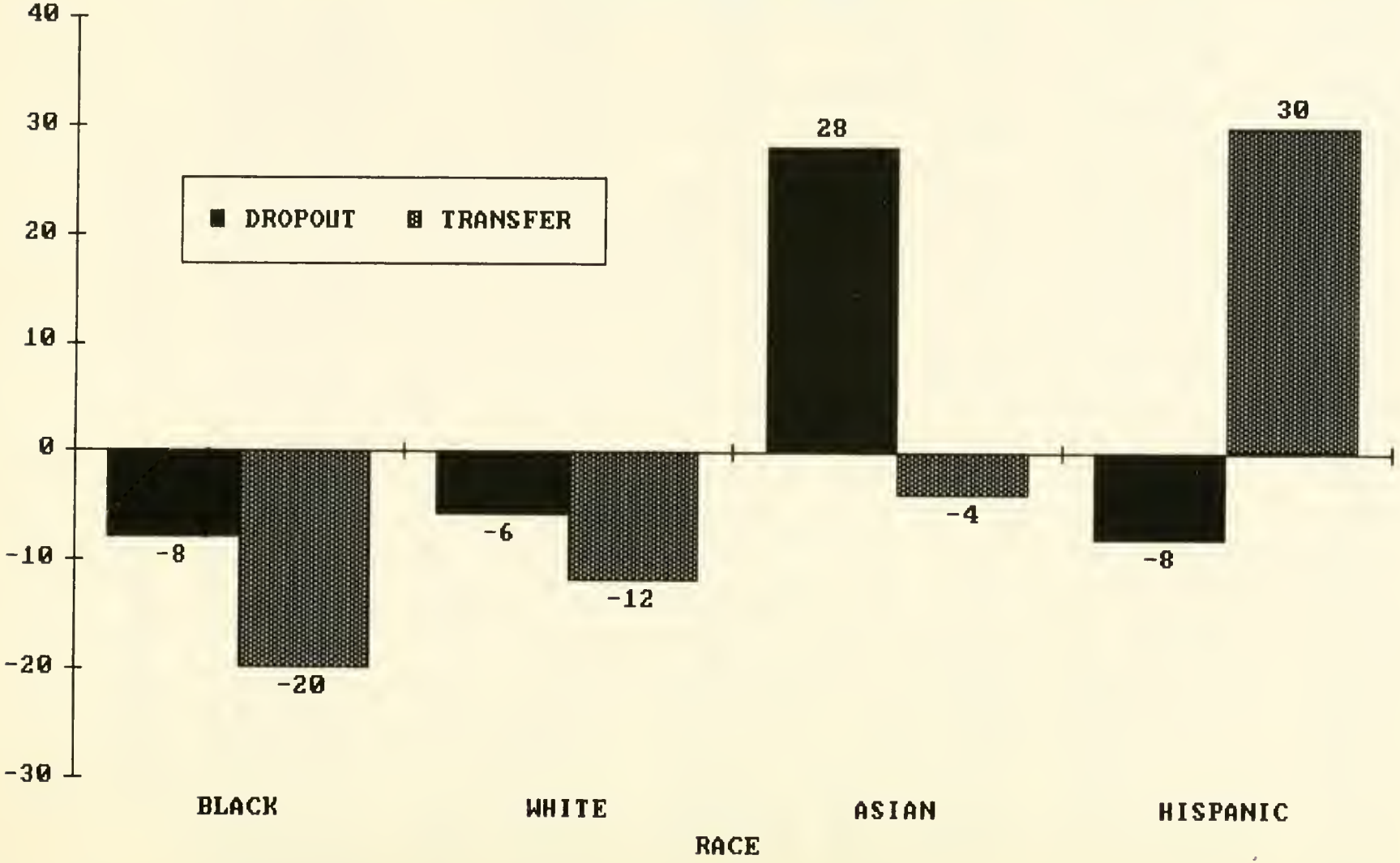
While the preceding exhibit shows Hispanics to be relatively more vulnerable to dropout than other students in the Bilingual Program, this exhibit shows how students in the bilingual program fare compared to students of the same race who are outside the bilingual program. This exhibit is particularly important because it seeks to explain whether bilingual students are more likely to dropout or transfer out than other students.

First, we see that Black students in the Bilingual Program (e.g., Haitians, Cape Verdeans) are less likely to dropout or transfer than Black BPS students not in bilingual programs. The same pattern is evident for White students in the Bilingual Program (e.g., Portuguese, Italian, Greek). Conversely, Asian students in the Bilingual Program are more likely to dropout (somewhat less likely to transfer) than Asian students outside the Bilingual Program. This is probably a function of the fact that we are comparing new Asian immigrants (e.g., Laotian, Vietnamese) with second and third generation (often Chinese) U.S.-born Asian students, who are often also of higher SES than newer Southeast Asian immigrants.

It is particularly interesting to note that Hispanic students in the Bilingual Program are less likely to dropout (but more likely to transfer) than Hispanics outside the Bilingual Program. Consequently, we have noted that Hispanics have the highest rate of dropouts of any group at BPS, and are most likely to drop out of any linguistic group in the Bilingual Program, but are less likely to drop out if they are in the Bilingual Program than outside the Bilingual Program. The Bilingual Program, then, tends to buffer Hispanic students against dropout. Actually, the Bilingual Program seems to buffer most students against dropout, when compared to these students' counterparts outside the bilingual program. We explored the possible reasons for this buffering effect with a group of bilingual educators. Their opinions are outlined in the pages that follow.

Exhibit 23

1984-85 BILINGUAL EDUCATION PROGRAM: LIKELIHOOD OF STUDENT LOSS BY RACE GROUP



Black Chi Square = 17.5, df = 2, P < .0002; Kendall's Tau = -.0099, P < .004. White Chi Square = 10.5, df = 2, P < .005; Kendall's Tau = -.01, P < .004. Asian Chi Square = 21.8, df = 2, P < .00001; Kendall's Tau = .06, P < .0002. Hispanic Chi Square = 15.5, df = 2, P < .0004; Kendall's Tau = .02, P < .09.

BILINGUAL EDUCATION AS A SUPPORT STRUCTURE

From the analysis of data it is evident that Hispanic, Black, and White students who are enrolled in bilingual programs are less likely to dropout of school. Factors which make the bilingual program a buffer for students was a major focus of discussion with a group of Bilingual educators. Following is a list of items suggested by bilingual educators as possible contributors to the buffering effects of the Bilingual program:

1. Time: Individual time with students made possible by somewhat smaller class size; group work methods.

2. Role Models: Bilingual program students often share the same race/ethnicity of their teachers, and often get to know them well, frequently as role models. Given that this is often a student's first point of contact with a different culture, strong relationships with teachers commonly develop which may counter alienation from school and dropout.

3. Familiarity with alternative learning styles: Commonly, bilingual teachers may have gone through a learning process similar to that facing their students, and may tend to empathize and provide the kind of psychological supports that buffer students against dropout.

4. Advocacy: Teachers may tend to identify strongly with their students and their circumstances, and go out of their way to be supportive, and act as advocates for their students.

5. Built-in Supports: Student supports are built into various aspects of the Bilingual Program, helping students adjust to a new culture, city, country, and language; this likely helps them adjust to school as well.

6. Teacher's Roles: There is often a strong tradition of respect for teachers in the students' culture of origin. This often leads to greater home influence by teachers in those areas that pertain to the student and his/her education. This facilitates a coordination of work between the home and the school, and strengthens a teacher's overall impact on problems that may lead to dropout.

Though not conceptualized as such, the Bilingual Program actually tends to incorporate many programmatic elements reported by the literature as effective in decreasing dropout. Generally, these elements are described in the literature as an empowering model,

which combines elements of teacher advocacy, teacher responsibility, teacher culture, parental involvement, same race role models, small class size, and individual encouragement (see the Wisconsin empowerment model described in Part 3 -- Prevention and Intervention Programs). It is not surprising that the transition to mainstream classes is difficult or not desired by many bilingual students and parents, and student adjustment is often necessary after mainstreaming.

School Failure & "Getting Into Trouble"

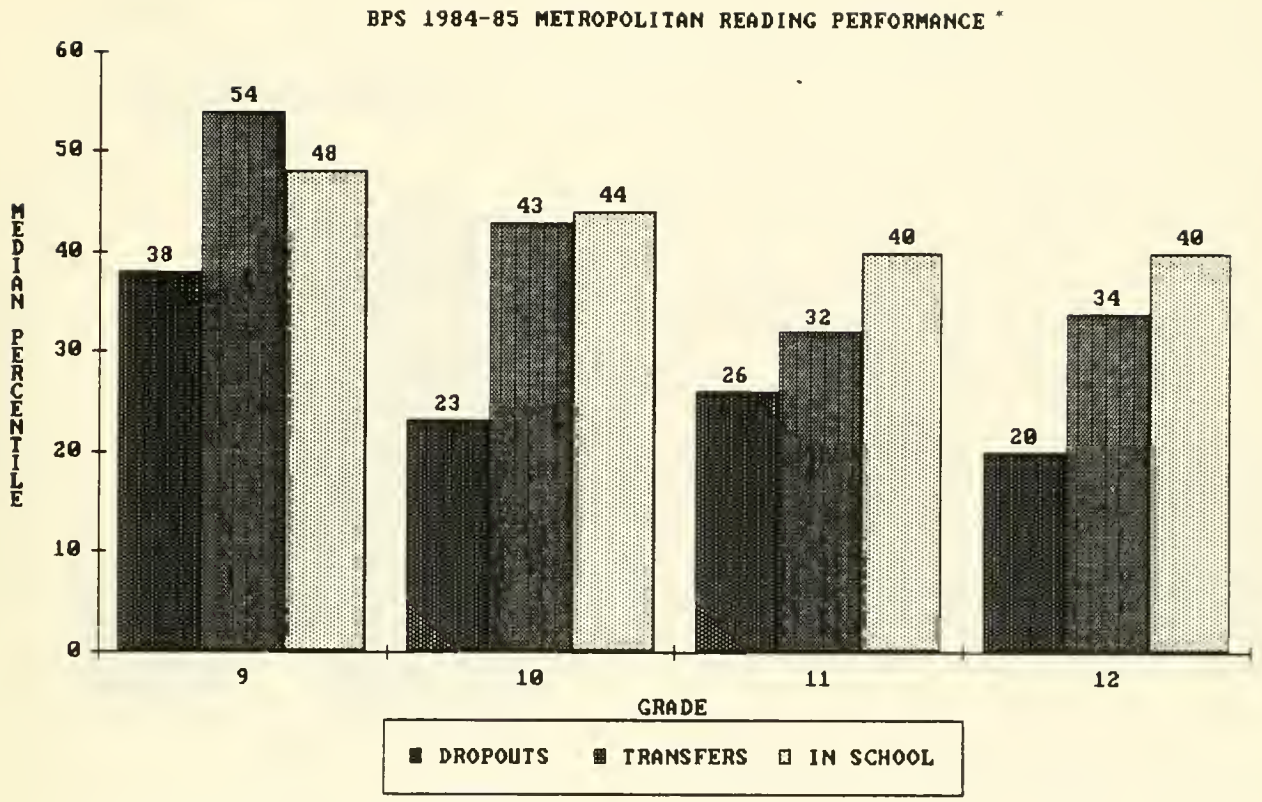
- Metropolitan Reading and Math Performance
- Basic Skills Test Performance
- Comparison of Student Loss and Student Performance
- Nonpromotions
- Suspensions

EXHIBIT 24

BPS 1984-85 METROPOLITAN READING AND MATH PERFORMANCE

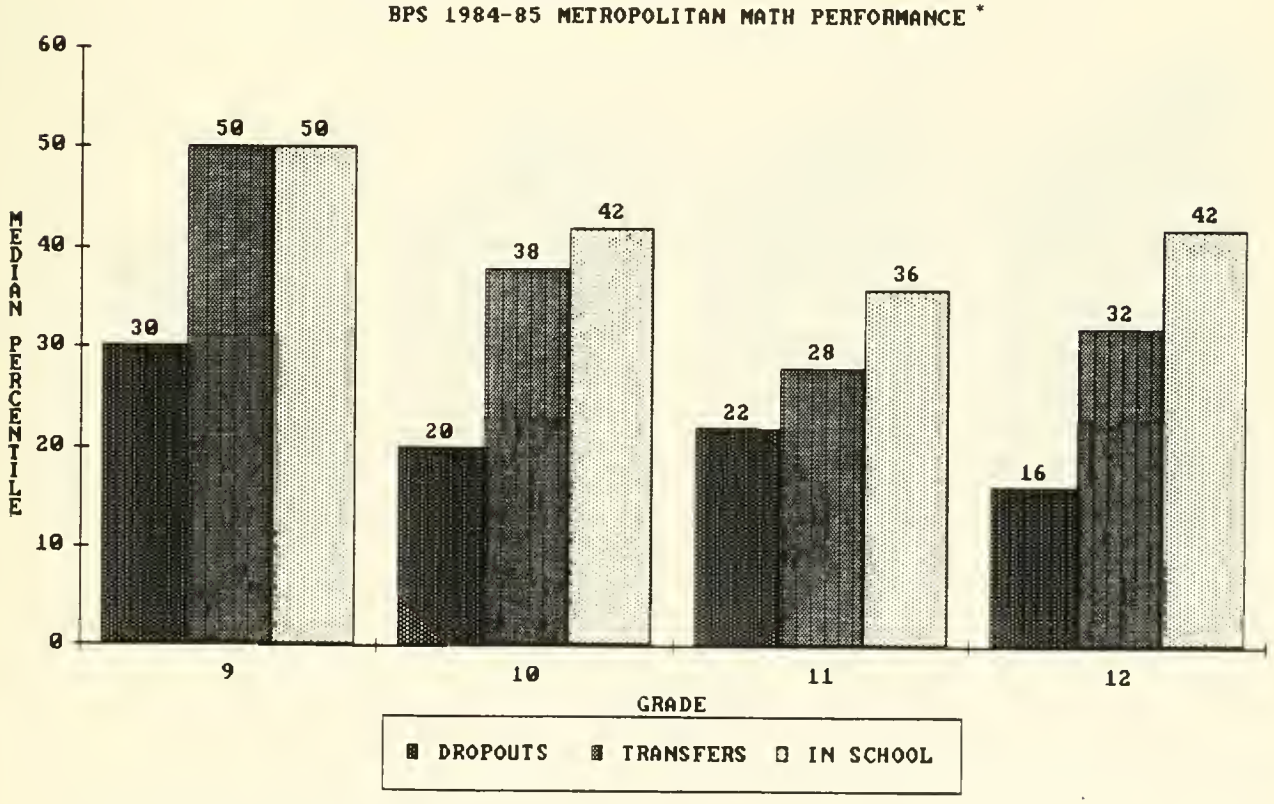
This exhibit depicts Reading (top) and Math (bottom) performance by grade of students who subsequently drop out, transfer, or stay enrolled at BPS. This exhibit provides strong evidence that the reading and math performance at every grade level of students who subsequently drop out is much lower than that of those who transfer out or those who stay enrolled at BPS. Clearly, learning lag and lack of school progress are implicated in the BPS dropout problem. It is also interesting to note that starting around the 10th grade, students who transfer out of BPS are more likely to academically perform (at least in reading and math) below those students who stay at BPS. Given the median level of performance, particularly in the 11th and 12th grades, students who transfer out of BPS are more likely to be at risk of school failure. This brings to mind exhibit 6, and the 24% of 1984-85 dropouts who transfered into BPS from another district only to drop out within a few months. These may be students who transfered into BPS while being at some academic risk. Likewise, a number of juniors and seniors who transfer out of BPS may end up adding to the dropout rate of other districts.

Exhibit 24



*Comparisons Based on May 1984 Metropolitan Test

SOURCE: Office of Research & Development, May 1986.



*Comparisons Based on May 1984 Metropolitan Test

SOURCE: Office of Research & Development, May 1986.

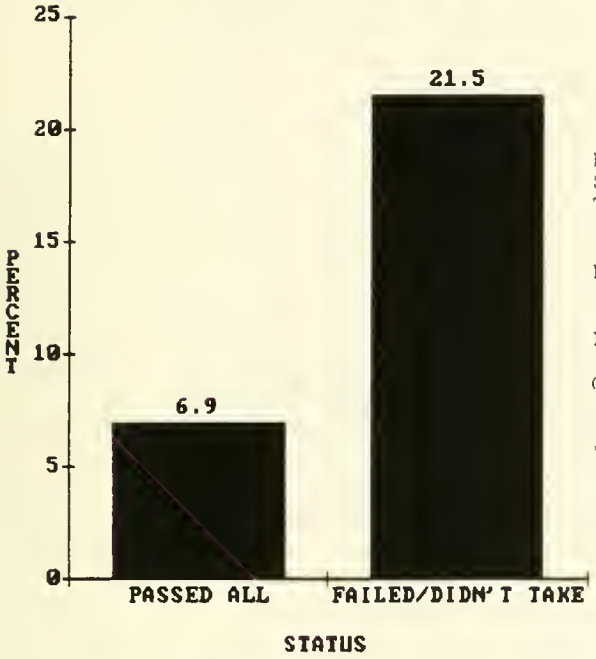
EXHIBIT 25

1984-85 BASIC SKILLS TEST AND DEGREES OF READING POWER TEST

The State Basic Skills Test and the DRP show the same pattern. Dropouts are much more likely to have failed or not taken one or more of the three required State Basic Skills Tests, and perform lower in the DRP than either those who transfer out or those who stay at BPS. It is also interesting to note that the average DRP score of seniors who drop out is below the promotional standard for graduation.

Exhibit 25

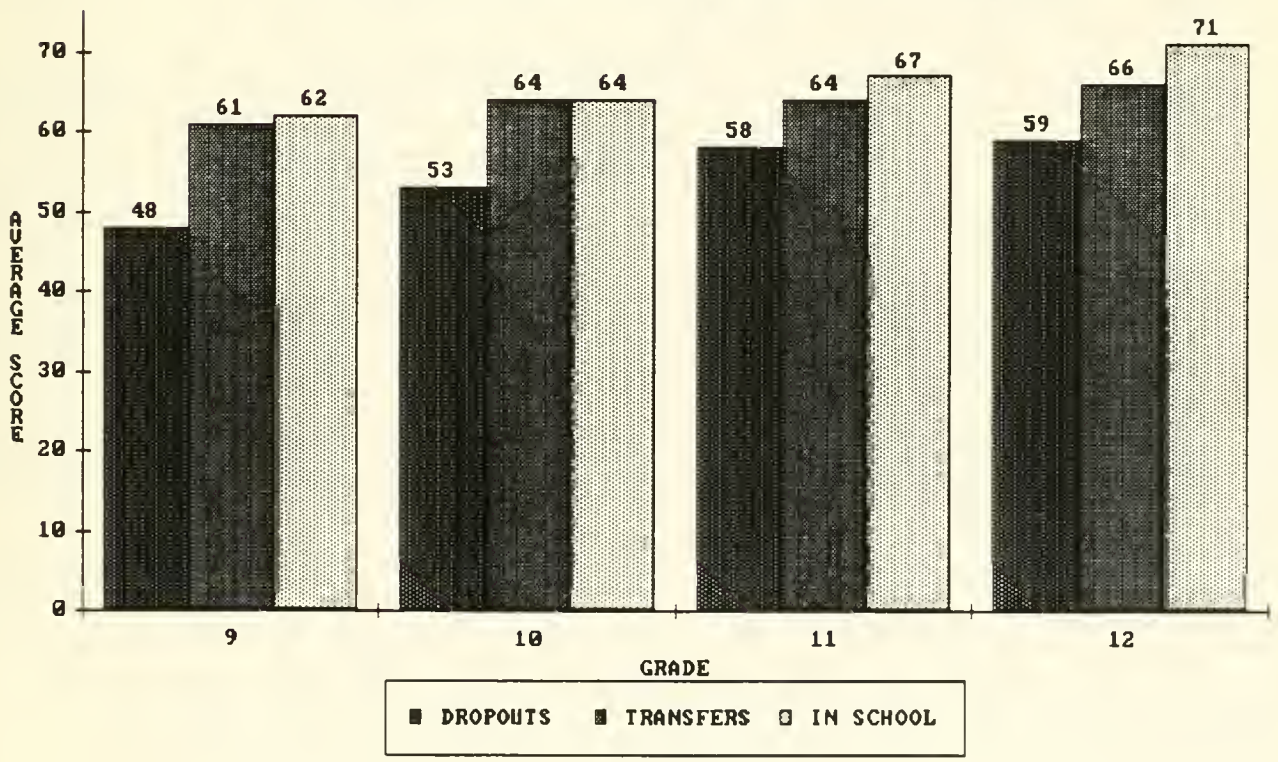
1984-85 BASIC SKILLS TEST PERFORMANCE OF DROPOUTS



BASIC SKILLS TESTS*	HIGH SCHOOL DROPOUT	TRANSFERS	ENROLLED AT BPS
PASSED ALL	518 6.9%	420 5.6%	6620 87.6%
FAIL/NOT ADM.	1990	564	6688
ONE OR MORE	21.5%	6.1%	72.4%

*Chi Square = 723.8, df = 2, P< .00001: includes State Basic Skills Tests for Reading, Writing, and Mathematics: Comparison of students who took and passed all 3 tests and those who failed or were not administered one or more tests

BPS 1984-85 DEGREES OF READING POWER TEST PERFORMANCE*



*Comparisons Based on May 1984 Degrees of Reading Power Test

SOURCE: Office of Research & Development, May 1986.

EXHIBIT 26

COMPARISON OF STUDENT LOSS AND STUDENT PERFORMANCE

This exhibit summarizes student performance of dropouts, transfers, and students who remain at BPS. Here the data clearly show the pattern previously described where juniors and seniors who transfer out of BPS are lower performers than those who stay at BPS. The pattern is tested statistically for the DRP, and shows significant differences among juniors and seniors who transfer out and those who stay at BPS.

In the case of dropouts, the pattern is consistent and strongly pronounced. Dropouts simply perform much lower than other students (see, for example, statistical tests for DRP differences). Taken together these data show a consistent and pronounced pattern that implicates learning lag and poor school performance in the BPS dropout problem.

EXHIBIT 26

BPS 1984-85: COMPARISON OF STUDENT PERFORMANCE BY HIGH SCHOOL GRADE*

	Median Percentiles Metropolitan Test		AVERAGE SCORE
9TH GRADE	READING	MATH	DRP
DROPOUTS	38	30	48[1.]
TRANSFERS OUT	54	50	61[1.]
IN SCHOOL	48	50	62[1.]
10TH GRADE			
DROPOUTS	23	20	53[2.]
TRANSFERS OUT	43	38	64[2.]
IN SCHOOL	44	42	64[2.]
11TH GRADE			
DROPOUTS	26	22	58[3.]
TRANSFERS OUT	32	28	64[3.]
IN SCHOOL	40	36	67[3.]
12TH GRADE			
DROPOUTS	20	16	59[4.]
TRANSFERS OUT	34	32	66[4.]
IN SCHOOL	40	42	71[4.]

1. DRP ANOVA (2,3567) F=50.4, P<.00001;
   Contrast dropouts with in school, t=10.0, P<.00001;
   Contrast transfers out with in school, t=0.8, P>.4

2. DRP ANOVA (2,3525) F=69.1, P<. 00001; contrast dropouts with inschool, t=11.8, P<. 0001; contrast transfers with in school, t=0.6, P>.5

3. DRP ANOVA (2,3057) F=36.4, P<.00001; contrast dropouts with in school, t=8.4, P<.0001; contrast transfers with in school, t=2.2, P<.03

4. DRP ANOVA (2,2707) F=36.6, P<.00001; contrast dropouts with inschool, t=8.4, P<.0001; contrast transfers with in school, t=1.95, P<.05

*Comparisons are made of the students May 1984 Metropolitan and Degrees of Reading Power Scores.

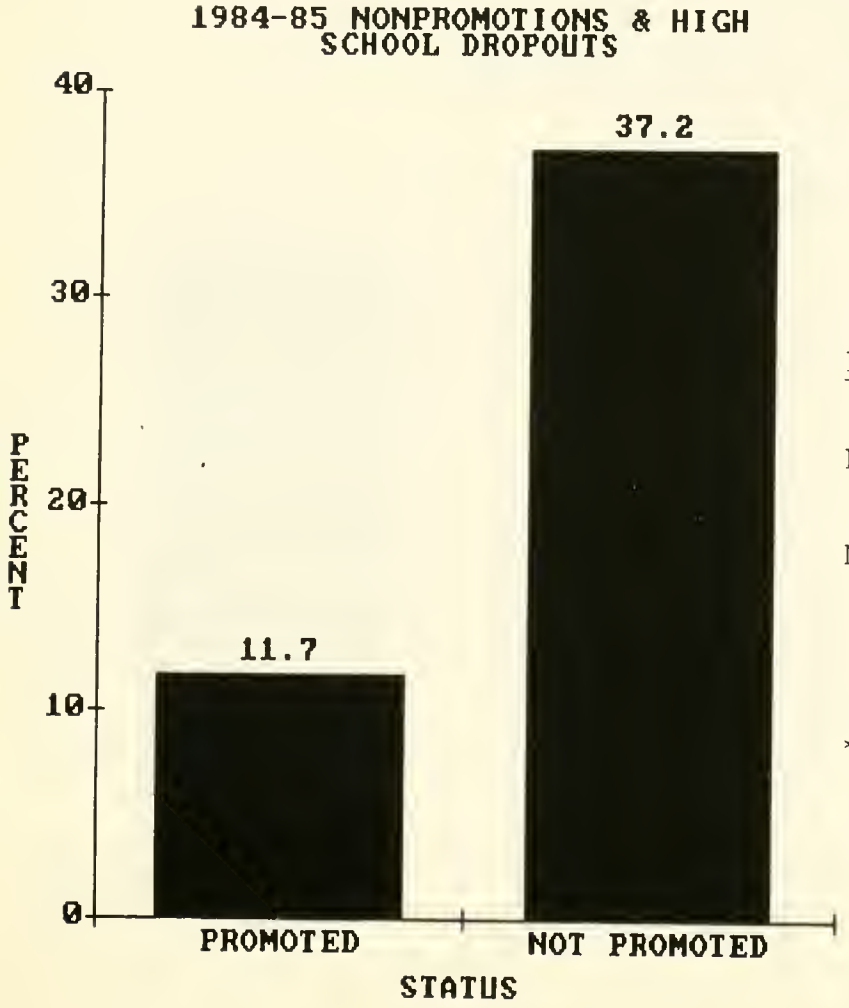
SOURCE: Office of Research & Development, May 1986

EXHIBIT 27

1984-85 NONPROMOTION AND DROPOUTS

This exhibit depicts the relationship between student loss and promotion. The major difference between these variables is highlighted in a bar graph. Here, dropouts are about 3 times more likely not to have been promoted than to have progressed normally the preceding year. School failure is clearly implicated in the BPS dropout problem.

Exhibit 27



PROMOTION*	HIGH SCHOOL DROPOUTS	TRANSFERS	BPS ENROLLS
PROMOTIONS	1834 11.7%	1000 6.4%	12,831 81.9%
NON PROMOTIONS	1209 37.2%	231 7.1%	1814 55.7%

*Chi Square = 1325.0, df = 2, P < .00001

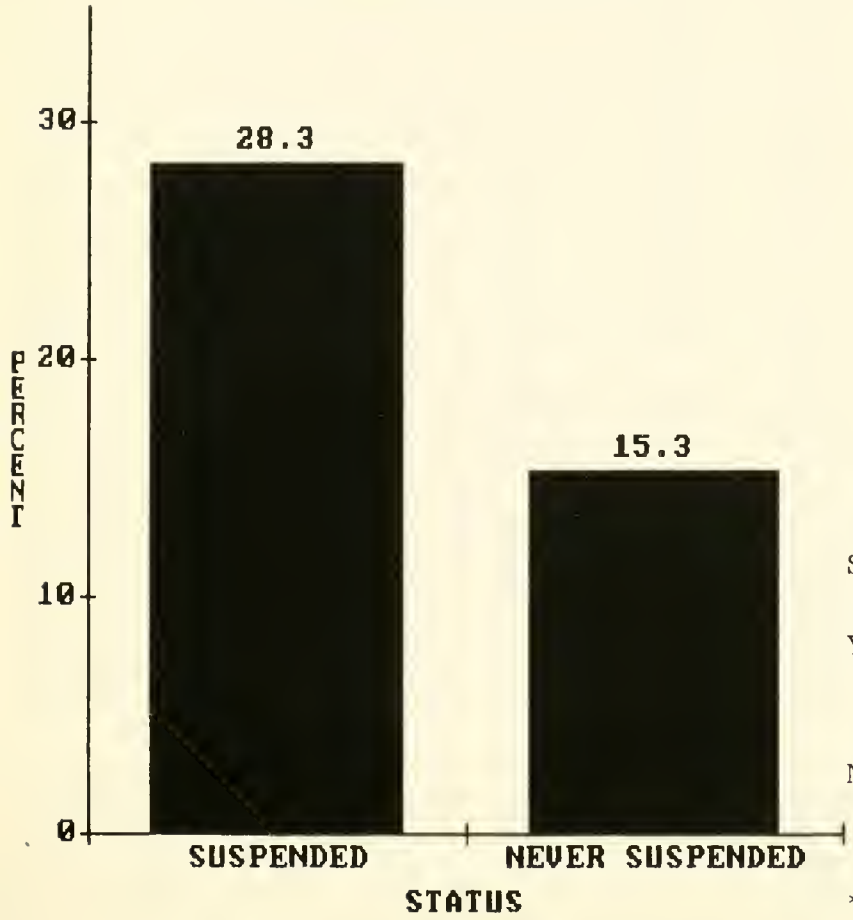
EXHIBIT 28

1984-85 SUSPENSIONS AND DROPOUTS

Another indicator of "getting into trouble" is the greater likelihood of suspensions among dropouts reported in the national literature. BPS data corroborates this expectation. This exhibit shows student loss at BPS grouped by suspension categories. Again, dropouts are much more likely to have been suspended the preceding year. A bar graph depicts this relationship. In summary, then, "getting into trouble" and "school failure" indicators are strongly implicated in the dropout problem at BPS.

Exhibit 28

1984-85 SUSPENSIONS OF SCHOOL DROPOUTS



	HIGH SCHOOL		
SUSPENSIONS*	DROPOUTS	TRANSFERS	ENROLLED AT BPS
YES	532 28.3%	125 6.6%	1225 65.1%
NO	2966 15.3%	1456 7.5%	14915 77.1%

*High School students suspended at least once in 1984-85;
Chi Square = 208.4, df = 2, P < .00001

PART 3

DROPOUT PREVENTION AND INTERVENTION PROGRAMS

1. Different Programmatic Approaches to Prevention, Intervention And Post-Dropout Re-Entry: A Review of the Literature

2. Relative Effectiveness of Different Programmatic Approaches

3. Alternative Programs at BPS

1. Different Programmatic Approaches to Prevention, Intervention And Post-Dropout Re-Entry: A Review of the Literature

Programs reporting to decrease the dropout rate are varied and multifaceted. Schools have responded with a variety of programs and activities to serve the needs of potential dropouts. The purpose of this section is to review the literature on the types of programs which have been devised, and to outline their reported effectiveness in reducing dropout. Program effectivness is then compared to existing programs in Boston, highlighting needs, strengths, and probable effectiveness of interventions.

Dropout prevention/intervention programs are most commonly a combination of the following approaches:

- Social Support
  - counselling programs
  - peer-group programs
- Academic Remediation
  - alternative school structures
  - academic remediation
- Alternative Education
  - school based
  - community based
- Work experience
  - vocational programs
  - institutional cooperatives
  - government sponsored programs

The rationale for each program is fairly consistent. Social Support Programs provide counselling programs, special support services to improve self-esteem, address personal/ family problems, and assist in establishing personal goals. Peer group programs address effects of alienation and personal failure through mutual support. Academic Remediation focuses on basic skill improvement; alternative structure provides qualitative and environmental changes to improve the learning atmosphere. Alternative Programs provide a new of different environment for students who cannot function in the traditional setting. Work Experience allows students to discover the interdependence of school and work; vocational programs offer students an opportunity to find success in the acquisition of a job skill.

2. Relative Effectiveness of Different Programmatic Approaches

Most effective programs tend to utilize a variety of strategies rather than depending on only one approach, and their strategies are well integrated. Effective programs remove potential dropouts from the ordinary school setting and place them in different environments. Participants generally constitute a small population for which resources were narrowly targeted and concentrated. A strong vocational emphasis was present in many programs. Students may learn practical, often job related skills in school and apply academic learning to real-life situations. Much learning occurs outside of the classroom, often in the form of paid employment. Programs are instensive, have low student teacher ratios, individualized instruction, strong counselling components, small size, out of classroom learning and tend to increase interest, retention, and motivation. (Hamilton,1986)

Dale Mann, lists four characteristics which are essential components of effective programs: cash, care, computers and coalitions. Care or concern is essential. Getting teachers motivated and concerned about potential or actual dropouts is difficult for these students exhibit the most behavior problems, and have often been the source of much frustration for the school. Yet the formation of an interpersonal bond, knowing students by name, asking about their lives, is central to establishing a trusting connection which is the basis of the most successful models listed (e.g. the"Environment Empowerment/Wisconsin Model", "Counselling/Caring Community", and the "Jobs/Institution Collaboratives"). These programs are defined by lots of personal contact, high teacher expectation, a range of instructional techniques, and caring about the students progress. Students are challenged, allowed to take intiative and show responsibility. Computers ranked high in all ratings. They generally provide interactive learning and skill development, decision making and problem solving strategies, for participating students. Coalition building joins school, community, industry, and families in the effort of educating. Placing education in the larger societal context gives more meaning to instruction and places more resonsibility on the community to respond to the needs of students (Mann, 1986).

Various types of specific interventions are listed in the left column of the accompanying exhibit. Program assignments to specific clusters were based on primary program emphasis. These clusters are sufficient for describing the programs although few programs were found to have only a single emphasis. Programs usually contain a combination of elements. Each intervention strategy listed was rated for effectiveness through an extensive literature review. Individual strategies are rated for effectiveness as follows:

0 if reviews were a mixture of positive and negative findings;
1 if there is anecdotal support but no empirical evidence;
2 if there is some empirical support;
3 if strong empirical support exists in the literature.

The ratings shown are based on the general effectiveness of the single intervention strategy as reported in the literature. It should be noted that it is difficult to evaluate and rate one discrete aspect of a program. The success and effectiveness of any intervention/prevention program is a function of the implementation, timing, commitment of the school system and individual school, teachers and staff. In spite of the success of initiatives, they are seldom applied consistently, to a large enough student population, and the most effective programs have not been generalized.

SOCIAL SUPPORT PROGRAMS

Counselling is a neccessary component of most successful dropout programs. The counselling/caring community was rated very highly and was successful based on the interpersonal bonds formed. Teacher advocacy was also highly rated. School-based child care in combination with health clinics were found to be exceptionally effective and beneficial to students with and without children, teachers, and staff.

Social support programs can be very effective for students, but depend upon the commitment and engagement of the student in the process. In general social support programs are more difficult to measure. However, school based counselling, with adequate staff, is essential especially in the areas of health care, pregnancy prevention, substance abuse, and family/personal problems. Referrals to community agencies are too frequently ineffective due to lack of continuity and follow up. Counselling is often crisis related, rather than being a developmental learning process and may open up problems that are time consuming and difficult to handle. The school which adequately addresses these issues has established an element of care which is essential to effective programming.

ACADEMIC PROGRAMS:

Academic remedies represent less than one third of the programmatic alternatives availaibe in the literature. Individual intensive academic remedies do not place prominently in the effectiveness rankings. Successful academic remediation programs often contain aspects of alternative structure and social support. Remedial programs alone, without these supports were often experienced as punitive which actually increased dropout.

Alternative structures within schools (increasing flexibility and empowering the educational environment) is the most effective intervention reported; it is generally considered beneficial to student, teacher, and the school . Flexibility in the system, individualized and cooperative groups,

accomodation of differing needs, and small class size, succeeded in increasing graduation rates, student and teacher satisfaction, and attendance. Alternative structures increase motivation and create incentives to reward behavior.

Academic Remediation in the middle school is much more effective than in the high school. Computer managed instruction was rated very favorably, as one of the most effective remediation technique.

ALTERNATIVE PROGRAMS

Alternative Programs provide more comprehensive version of alternative structures. They usually have their own facilities, administrative and staff support. Some programs are designed for a specific population while others are geared to a heterogeneous group.

Alternative schools are consistently rated highly. Alternative programs physically separate students from the environment where s/he experienced failure. Frequently beginning in a new milieu is an important step towards completing school. Relaxed rules are featured and scheduling is more flexible and accomodating. Frequently students who are particularly talented in certain areas or who work well on their own thrive in this environment. Closer student teacher contact is a component of this strategy.

WORK EXPERIENCE

Work related approaches are very successful in reaching potential dropouts who see little relevance in school, and have problems transferring what is learned in school to life outside. Work experience frequently offers paid employment opportunities to aid the student facing financial difficulties, to increase the incentives to remain in the program, and to reward daily participation. Work experience is most successful when students gain skills and training necessary for employment, which is one of the most effective form of experiential learning. Frequently close bonds are formed in apprenticeship-type programs where students closely work with professional, business, or college personnel. Education seems more relevant to students with this added component.

3. Alternative Programs at BPS

The listing of Boston programs was taken from descriptions submitted by individual schools to the Office of Alternative Programs. 10 of the 18 high schools and 8 of the 22 middle schools listed alternative programs. Under the best of circumstances, then, only a little over one third of middle schools have some form of alternative program. It is likely that sufficient number and variety of such programs are lacking at BPS. This brief review can only comment on their presence, not

quality or effectiveness.

SOCIAL SUPPORTS

Currently most BPS districts (not all schools) have active counselling components; however, district C is seriously lacking in this intervention technique. Existing counselling programs are clustered in certain areas and glaring deficits emerge.

1. Lack of racial multicultural focus: Only one program is listed in this area. In a system with a very large percentage of racial and linguistic minority students, coupled with indicators that this group is at greatest risk, this deficit is serious.

2. Lack of Teacher Advocacy: Findings indicate that teacher advocacy is highly beneficial to students, teachers, and schools. Some teachers want to become more involved with students; this techniques needs to be further investigated.

3. Components of the counselling/caring community are missing across BPS with one sole exception. This model is cited as being exceptionally effective in the literature, and should be explored here.

4. School-based Child-Care. very effective in assisting young mothers in their return to school.

5. Peer programs are missing from available alternative programs in BPS. Peer programs on a limited scale are effective.

ACADEMIC PROGRAMS

Academic remediation programs are available in most districts. However, programs listed as remedial do not have social support components nor alternative structures. Increasing enthusiasm for learning and personal support and encouragement are key to successful remedial programs. In Boston, programs which fit this descripition (alternative structure) are located mainly in districts A, C, and E. These programs serve a limited number of students, none feature teacher responsibility, teacher culture, or small class size, as described in the available data. Only one program is based on individualized and cooperative groups, an exceptionally effective learning strategy. Attendance incentives and computer assisted instruction exist in only 2 districts; a significant deficit in this age of technology.

As noted earlier, intervention strategies must be combined for maximum effectiveness. This is rare at BPS. Existing BPS programs could be strengthed by "empowering the educational environment" through flexible scheduling, smaller classes, multicultural programming, group projects, and increased teacher responsibility and greater use of teacher clusters.

ALTERNATIVE PROGRAMS

Alternative programs are seriously lacking. District E is the only represented district offering this approach. This is a major deficit, as Alternative Program models frequently provide the atmosphere for growth students at risk desperately need. Planning and Development of alternative programs is needed.

WORK EXPERIENCE

Boston has been a leader in the implementation of innovative school/work programs and cooperation between schools and community institutions. However, no work/study program exists in district A. These programs are quite successful according to the literature, again in combination with social support elements and academic programming. It is essential to combine all work-based programs with an academic component so that employment does not become the only focus. These program initiatives should be expanded as well as inclusion of job placement for graduates.

Boston has deficits in 3 of the 4 program categories:

NEEDS

a) Social Supports: Multicultural Programs, Teacher Advocacy Programs, Counselling/Caring Community Elements and Peer Programs.

b) Academic Programming: Alternative Structures should be combined with all strategies, computer assisted programs, and attendance incentives

c) Alternative Programs: This area is most lacking.

A major missing element is capacity for focused program evaluation. Evaluation is useful not only to determine what programs work best, but also to help improve valuable/needed programs. An evaluation component should accompany all alternative programs.

Exhibit 29

DROPOUT INTERVENTION - PREVENTION PROGRAMS

Effectiveness Review Code:
0 - Mixed Reviews
1 - Anecdotal Support
2 - Some Empirical Support
3 - Strong Empirical Support

	Review of Effective Programming			
	EDUCATIONAL/ STRUCTURAL INTERVENTION	STUDENT ORIENTED CHANGE	SOCIAL CHANGE	BOSTON ALTERNATIVE PROGRAMS
SOCIAL SUPPORT PROGRAMS				
• COUNSELLING PROGRAMS				
Teacher Advocacy	3	3		
Counselling to Address Personal Issues	2	3		A1,A2,B2,C4,D3,E3,F2,F3,
Alcohol Abuse Program		2		B2,D3,A2,
Drug Abuse Program		2		B2,D3,A2,
Family Counselling		2		A2,B2,D3,E3,F3,
Help with Parenting	3	3		B2,F3,F4,
Personal Growth/Life Skills		3		A2,B2,D3,F2,F3,
Counselling/Caring Community		3		
Interpersonal Skills		3		
Decision Making		3		
Problem Solving		3		E7,
Coping Skills		3		
Effective Behavior		3		
Liason with Social Service Community	2	0	1-3	B2,C1,C4,D3,E3,
• HEALTH CARE	3	3		
Pregnancy Prevention	3	3	3	C1,E7,F3,
Prenatal Care	3	3		A2,D3,E7,F3,
Day Care Provided by Schools	3	3	3	
• RACIAL/MULTICULTURAL FOCUS	3	3		
Multicultural Awareness for Teachers	3	3		E3,
Same Race/Ethnicity Instructor	3	3		
• ENHANCING SELF-IMAGE OF STUDENTS		2		A4,C2,D1,D2,E3,E7,F2,F3,
• PEER COUNSELLING		2		
• BIG BROTHER/SISTER PROGRAM FOR LOW ACHIEVER		1		
• ENCOURAGING PARENTAL INVOLVEMENT	3	3		C4,E3,E7,F2,F4,
ACADEMIC PROGRAMMING				
ALTERNATIVE STRUCTURE				
• SCHEDULING				
Flexible Scheduling	3	3		C1,E2,E7,
Individual Scheduling	3	3		A1,C1,
• EMPOWERMENT ENVIRONMENT/WISCONSIN MODEL	3+	3+		
Teacher Responsibility	3	3		
Teacher Culture	3	3		
Low Student/Teacher Ratio	3	3		A4,E7,C1,
Small Class Size	3	3		
Curriculum Emphasizes Individualized Cooperative Groups	3	3		C1,
Experiential Learning	3	3		C1,C2,C3,D1,E5,E6,E7,
Individual Tutoring	3	3		A1,C2,C4,
• ATTENDANCE INCENTIVE	3	3		A1,C2,C4,
ACADEMIC REMEDIATION				
• SCHOOL IMPROVEMENT TO UPGRADE BASIC SKILLS				
Middle School	3	3		A3,A4,B2,D3,E6,F2,F1,
High School	0-3	0-3		A1,C1,D1,E3,E4,E5,
• BASIC-SKILLS HIGH STRUCTURE				
Mastery Learning	3	3		A1,E6,F1,
Computer Assisted/Managed Instruction	3	3+		A4,E2,E7,
Reorganized/Extended Day,Week,Year,	0	2		E5,
Peer and Cross Age Tutoring	3	3		C3,
• INTENSIVE STUDY SKILLS IMPROVEMENT				
Middle Schools	2+	3		A4,B2,D3,F1,
• SUMMER SCHOOL		0		
• BEFORE/AFTER SCHOOL PROGRAM		0		C2,

DROPOUT INTERVENTION - PREVENTION PROGRAMS (cont.)

Effectiveness Review Code:
0 - Mixed Reviews
1 - Anecdotal Support
2 - Some Empirical Support
3 - Strong Empirical Support

	Review of Effective Programming			
	EDUCATIONAL/ STRUCTURAL INTERVENTION	STUDENT ORIENTED CHANGE	SOCIAL CHANGE	BOSTON ALTERNATIVE PROGRAMS
ALTERNATIVE PROGRAMS				
SCHOOL BASED				
• GIFTED PROGRAMS	3	3		E5,
• SCHOOL FOR ARTS	3	3		C1,D1,E7,
• SCIENCE FOCUS	3	3		
• BICULTURAL/MULTICULTURAL	3	3		E3,E5,E7,
• UNGRADED PASS/FAIL OPTION		0		
• INDEPENDENT STUDY	3	3		C1,
• RESIDENTIAL PROGRAM		3		
• CONTINUATION PROGRAM (Re-entry)		3		E2,
Employed Students		3		E2,
full-time		3		E2,
part-time		3		E2,
Teen Mothers		3		E2,
Emotionally Disturbed		3		E2,
Truant/Behavior Problems		3		E2,
Legal Infractions		3		E2,
COMMUNITY BASED				
• DROPOUT CENTER		1		
• STREET ACADEMY		1		
WORK EXPERIENCE				
• GENERAL		0		
Job Skills- stress value of work and education		1-2		A3,D3,E6,
• EXPLORATORY PROGRAM		2		B2,C2,D3,E6,F2,
Based on Student Interest Survey		2+		
• CAREER INTERN PROGRAM (C.I.P.)		3		C2, E3,E6,
• VOCATIONAL		2		
Marketable Trade/Skill Learned		3		C4,
• JOB/INSTITUTION COOPERATIVE		3	3	B2,C2,D2,D3,E4,E5,
Professionals		3	3	B2,C2,E5,E7,
Business/Industry		3	3	C1,C2,E5,E7,
Unions		3	3	
Colleges and Universities		3	3	
four year colleges		3	3	D1,E1,E5,E7,
community and junior colleges		3	3	D1,E1,E7,
• SCHOOL ENTERPRISE		3	3	C4,
• GUARANTEED JOB PLACEMENT/FOLLOWUP				
For Graduates		2	2	
For Non-Graduates		0	0	
• YEDPA (Youth Entitlement Demonstration Project)		2	2	
YCC (Youth Conservation Corp)		2	2	
YED (Youth Education and Demonstration)		2	2	
CETA		2	2	F4,
Job Corp		2	2	BPS Central
JTPA (Job Training Partnership Act).		2	2	F4,

Exhibit 30

ALTERNATIVE PROGRAMS (January 1986)

AREA A

	School	Name of Program	Person in Charge	Brief Description
A1.	J.P.High	Alt. Ed Program	Theodus Jordan	An In-house suspension program and a 6 to 8 wk Alt. Ed. Program
A2.	M. Curley Mid	Human Service Col.	David Johnson Maggie Goodwin	Includes Recap and Human Ser. Collab. Funds and Staff from 8 community agencies-work as a team-multiple services
A3.	T. Edsion Mid	Alt. Ed Program	Ross Scarcella	Work Study Program
A4.	Taft Middle	Goals of Boston	Thomas Killilea	Six wk summer program funded by Bank of Boston to ease transition of grade 5+6 pupils to the Middle School
		Before School Computer Prog.	Michael Fung	One hour before school assistance in Sci, Math and Lang. Arts via computer assistance

AREA B

B1.	H.P. High	Alt Ed. Program	Lorraine Hamilton John Sullivan	Work study program for 45 students held back in grade (636)
B2.	Irving Mid	Student Support Services	Daniel Harrington	A combination of community services join to form this program

AREA C

C1.	So Boston Hi	S W S (School Within a School)	Anita Jamieson	75 students gr 9 to 12 benefit from the size of this S W S (in its 10th year)
		Gateway	Anita Jamieson	70 students from gr 9, chosen randomly - they are in a cluster for 4 periods -Bank of Boston Grant
		ReBound	Thomas Pilleri	Work Study program for 19 students
		Culinary Arts	James Cavanaugh	79 pupils - 1 to 3 periods per day-Pupils learn skills for Food Industry

ALTERNATIVE PROGRAMS continued

	School	Name of Program	Person in Charge	Description
C2.	Dorchester Hi	Health Careers Magnet	Robert Callahan Joan Dolan, RN	Citywide program - General field of health is explored (internships available)
		CompactVentures	Craig Lankhorst	110 9th grade at-risk students are clustered Funded by PIC
C3.	McCormack Mid	Children's Museum	Judith Berkowitz Anna Cross	Eight, 7th and 8th grade pupils visit Children's Museum 1 day every wk (3 hrs)-for student needing this experience
C4.	Gavin Mid	Student Support Team	Joseph Lee	All grades - Provides Support Services (counselling, tutorial etc.) 19 External Agencies used.
	AREA D			
D1.	Charlestown H	College Level Courses	Ralph Berkowitz	15 Juniors and Seniors take college courses 3 times weekly (four colleges)
		Learning Center	George McCaffrey	100 students, grade 9-12 1 period daily at Learning Center. Basic Skills focus
		Metropathways	Bernice Lockhart	Grades 9-12, 15 pupils per semester-one day per wk urban and suburban students voluntarily mix
		Artist in Residence	Richard Friedman	100 grade 9 + 11 pupils involved. Two periods a week pupils exposed to cultural experience
D2.	E Boston Hi	Work Study Program	Robert Scigliano	28 pupils including gr 9 repeaters
D3.	Barnes Mid	Work Study	James Johnson	25-30 grade 7 and 8 students self contained class for 1/2 day. Their work component is supervised by Mr. Johnson

ALTERNATIVE EDUCATION continued

	School	Name of Program	Person in Charge	Descripton
	AREA E			
E1.	ACC (Faneuil Sch)	Another Course to College	John Best	Grade 11 and 12 pupils are prepared for college (Max 200 pupils)
E2.	Madison PK H	Boston Prep	Jemetta Hunt	100 potential H.S. drop-outs (overaged) have academic classes in afternoon and attend ORC or work part of day
		Home Base	Lynda Culver	125 grade 9 repeaters and grade 10,11,12 - at risk students in a school with-in-a-school get academics and counseling
E3.	Boston High	Work Study Program	Wm Law rence	700 + H.S. students - AM classes and PM work or visa - versa
E4.	Copley Sq H	Middle East Honors Program	Maureen Tisei Ben Walker Mildred Fryer	20 grade 10,11,12 pupils 1 hr a wk for 10 wks Political Issues
		Minimester	M. Tisei B. Walker	3 weeks in January remediation for needy students and a reward for others of an extern-ship at an international agency
		A Thematic Approach in Teaching Foreign Languages	Dr. Yu-Lan Lin	All 300 H S students take a foreign Language based on eight univer-sally shared culture themes
		Cultural Seminars	Mildred Fryer	All 10th Grade students 5 periods a day for 1 wk in each month - Exposure to World Cultural through Seminars
E5.	King Middle	New Horizons	Dr. James Buckley	A School within a school for 100 grade 7 and 8 pupils using the mastery learning style of educa-tion

ALTERNATIVE PROGRAMS continued

	School	Name of Program	Person in Charge	Description
E7.	King Middle	Peaks (Progressive Educ Alt)	Ronald Johnson	Fifteen grade 6,7,and 8 multiple repeaters-use Modified Mastery Learning
E8.	English H	English High Alt HS	Sid Smith	Three schools within Schools - Freshman cluster with Basic Skills, Fenway Program - gr 10 to 12 college Prepartory and Traditional Program for gr 10-12
		Compact Ventures	Ms. Abinader	A 9th grade Alt program sponsored by PIC. They assist the grade 9 cluster program
		Magnet Arts Program	Christy Park Betty Bowker Steven Leonard	An arts program that serves 1/2 the school population
	OTHERS			
F1.	Office at Area B Office	Recap	Philip Dushku	243 Middle school pupils mostly 2 years behind in grade level, from 10 mid schools sign a contract and complete 2 years in one
F2.	Off Site 22 Bowdoin St	Log School	Joseph Carpenito	35 students from the 3 District 5 Mid Schools who need an alternative setting due to truancy, grades, attitude
F3.	English H	CSAPP (Comprehensive School Age Parenting Program	Betty O'Gara	142 pregnant or parent students receive psychological counselling and support that continues their education. Program also operates at J.P. H. and Cleveland Mid Sch.
F4.	640 Beacon St (3rd Fl)	Edco Youth Alternative	Diane Lande	A private non profit school for low income, dropouts and at risk student-(a work study program)

Prepared by John McGourty, Director Alternative Education
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PART 4

SUGGESTIONS FOR FURTHER READING

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